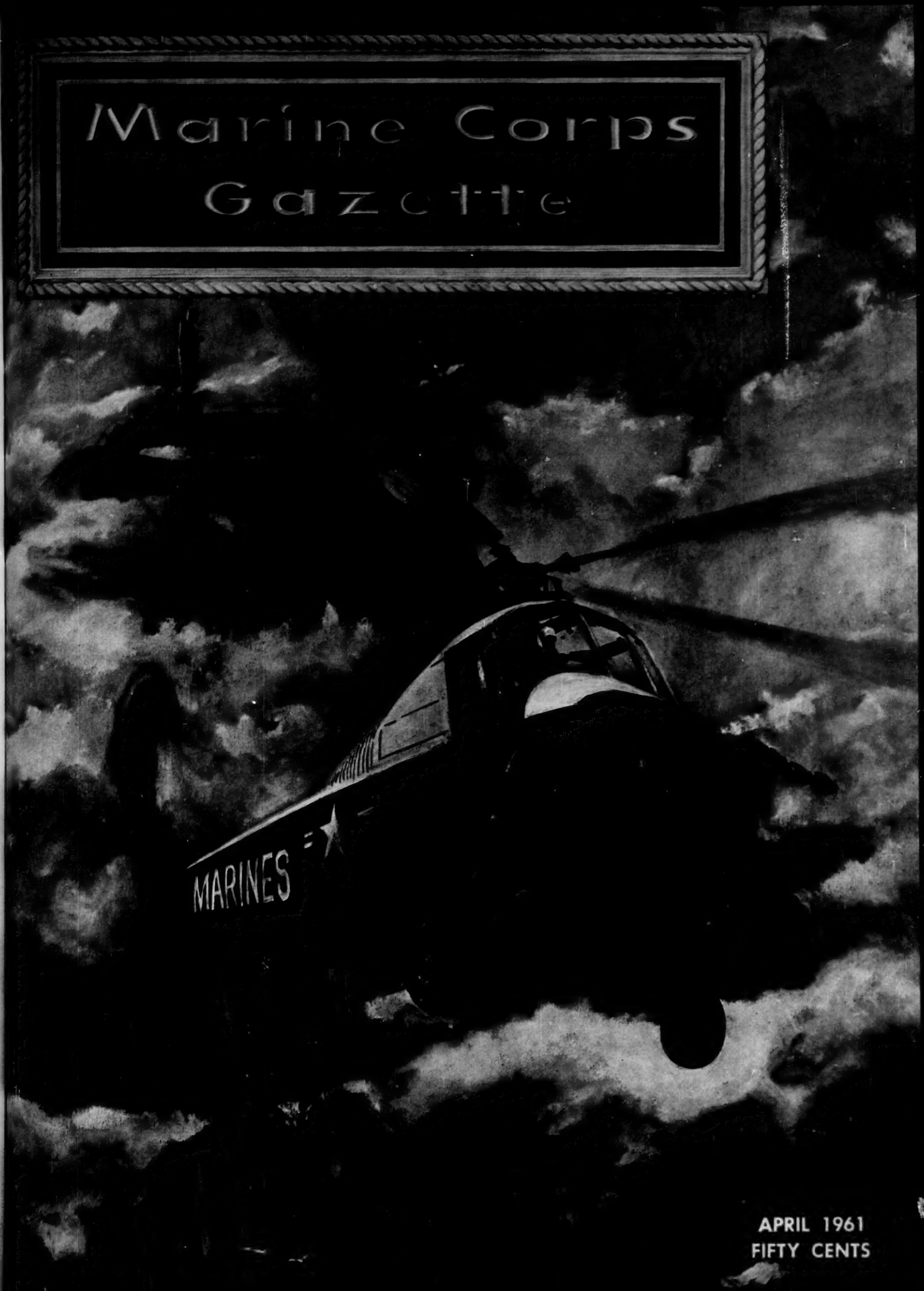
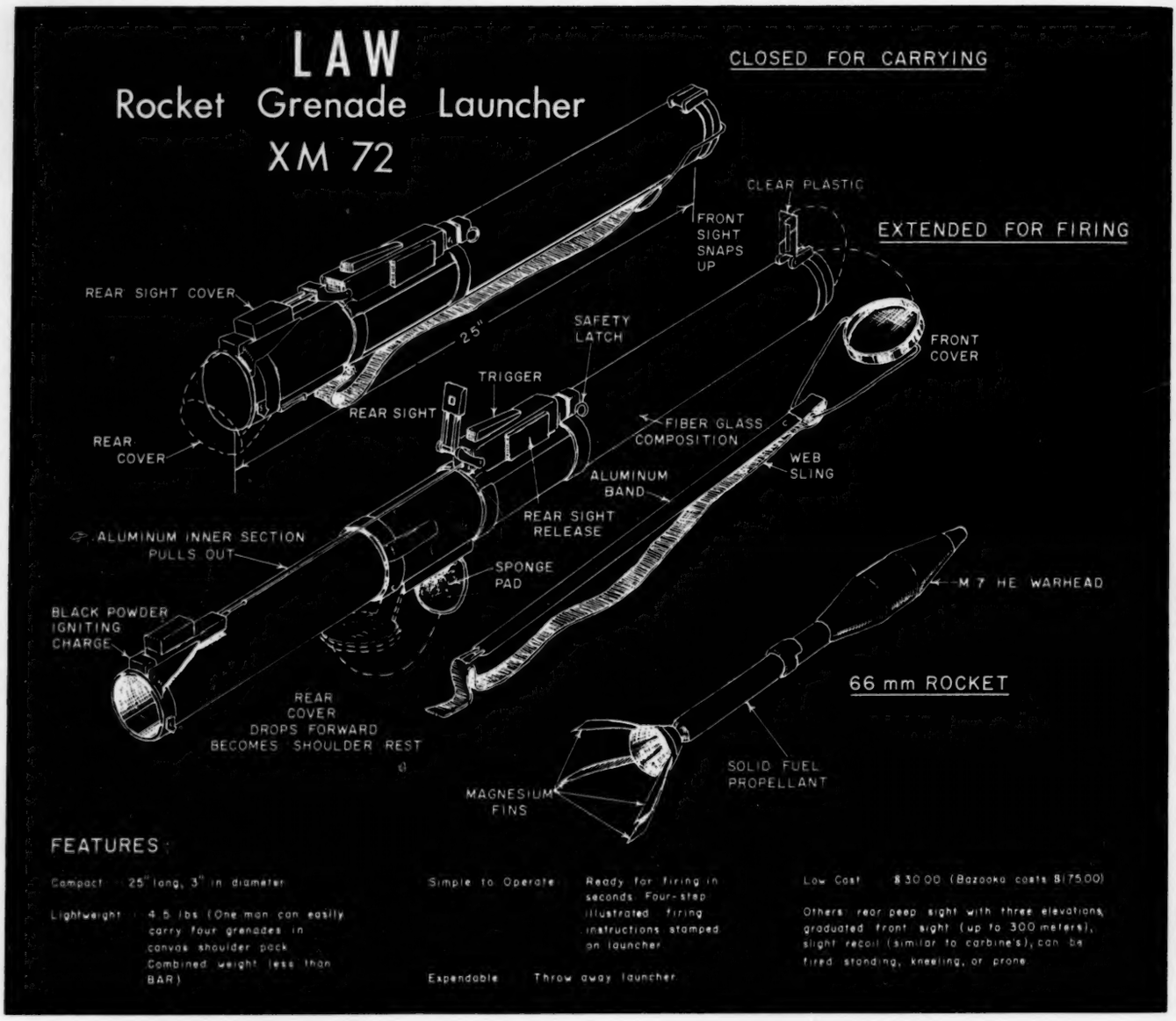
Marine Corps Gazette



APRIL 1961
FIFTY CENTS

KEEP UP WITH YOUR changing CORPS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Rocket Grenade Launcher
XM 72
CLOSED FOR CARRYING
EXTENDED FOR FIRING
CLEAR PLASTIC
FRONT SIGHT SNAPS UP
REAR SIGHT COVER
25"
SAFETY LATCH
FRONT COVER
TRIGGER
REAR SIGHT
REAR COVER
FIBER GLASS COMPOSITION
WEB SLING
ALUMINUM BAND
REAR SIGHT RELEASE
ALUMINUM INNER SECTION PULLS OUT
SPONGE PAD
M 7 HE WARHEAD
BLACK POWDER IGNITING CHARGE
66 mm ROCKET
REAR COVER DROPS FORWARD BECOMES SHOULDER REST
SOLID FUEL PROPELLANT
MAGNESIUM FINS
FEATURES:
Compact: 25" long, 3" in diameter
Lightweight: 4.5 lbs (One man can easily carry four grenades in canvas shoulder pack. Combined weight less than BAR)
Simple to Operate: Ready for firing in seconds. Four-step illustrated firing instructions stamped on launcher
Expendable: Throw away launcher
Low Cost: $30.00 (Bazooka costs $175.00)
Others: rear peep sight with three elevations, graduated front sight (up to 300 meters), slight recoil (similar to carbine's), can be fired standing, kneeling, or prone

DISPOSABLE????

XM-72 Launcher . . . once it's served its purpose you can discard it like used Kleenex. But you won't want to throw away your own GAZETTE. Read it today, use it for reference tomorrow. Keep up with your changing Corps . . . *get your own GAZETTE . . . sign up today!

Troop copies have been slashed; don't count on them. Your own GAZETTE costs less than a box of disposable tissues a month. Now—$4.00 a year for active enlisted leaders, $5.00 a year for officers.

Marine Corps Gazette

BOX 1844, QUANTICO, VA.

Marine Corps 1961

The Marine Corps Association Newsletter

An unofficial digest of news of interest to our members

Volume 45, Number 4 | Marine Corps Gazette | April, 1961

Corps Standing Tall; Ready, Willing, Able

Where does the Marine Corps stand today and where is it headed? This is what CMC, Gen D. M. Shoup told the House Armed Services Committee:

"The purpose of the Corps is to provide combat forces of willing and able Marines, prepared to fight wherever and whenever required. The Corps is ready to fulfill this purpose. . . .

"The Marine Corps continues to emphasize the importance of the small unit leader and the individual Marine. Success in battle ultimately depend on them.

"These Marines and those who support and command them are entitled to the training and conditioning necessary to prepare them for this high duty. They are receiving this training and conditioning. . . .

"Military preparedness is never a static condition. Research and development efforts produce competitive solutions to many of our military problems. What are we doing about it? We continue our efforts in:

- Developing the capabilities of the individual Marine.
- Conducting troop tests to better our organization and equipment for combat.
- Seeking better training methods.
- Enhancing our capabilities in the intelligence field.
- Monitoring development of Vertical Take Off Landing aircraft, as well as Ground Effects Machines.
- Improving our short airfield for tactical support.
- Developing helicopter transportable weapons for fire support in the assault.

"In conclusion, I believe that the Navy-Marine Corps sea-air-ground team of today has perfected the art of amphibious assault to a degree unknown before. In our entire arsenal, the balanced fleet is a unique weapon. It is the weapon we have and our potential enemies do not. The weapon for policy, for cold war, for little war, for big war. The weapon that allows us to project American power anywhere in the world and to whatever degree may be directed. I propose to keep the Marine Corps part of this Fleet team trained, ready, willing."

Officer Promotions

What are your chances for promotion this year? You'll have to wait for firm word. The plan for selections to temporary grade this summer is still staffing, should go to CMC early this month. Forget premature press reports.

Actually, some increase for selection to major and captain is likely. Reason: some 175-200 lieutenant colonels will be forced out by the "hump law" in FY 62. These vacancies will be split up to enlarge the zones. If you're close, you may get a "windfall" and make the zone this year. But you get no free ride; attrition will be just at tough as last year.

Also coming up: annual permanent promotions. The President (Eisenhower) submitted these to Congress. When and if the list is approved, you'll be notified as a vacancy comes up during the year to allow your

(See **Officer Promotions,** page 2)

Homes For Marines

Headline of the Month: WORK TO RESUME ON CAPEHART, CamLej *Globe.*

After a long delay some CamLej families can look forward to moving into three or four bedroom quarters beginning in July. 600 units in various stages of construction were abandoned by the contractor last June (MCA NEWSLETTERS July '61). These will be finished (at a rate of about 50 a month). Foundations are yet to be laid for 200 more.

Here's the way the ball bounced after the contractor fumbled: Bonding Co-to-FHA-to-DoD-to-Navy Dept-to-Bu-Docks. Next step: Bids let, a new contractor on the job. There's $6.5 million left in the kitty, possibly not enough to finish the job but FHA will kick in any extra funds needed.

What about Capehart for CamPen and 29 Palms? Set for late this year, it was shot down at CamPen, cut 50 units at 29 Palms. Here's why:

Original Capehart Housing Bill called for 20,000 units, service-wide. Last year Public Law 86-500 authorized an additional 9,500 units. Marines' share was 550, split 400 for CamPen, 150 for 29 Palms. Then for some reason Congress slapped a 25,000-unit ceiling on Capehart. This action put 4,500 units on the chopping block. In making the cut housing planners determined a less critical housing need at CamPen than other bases, let 29 Palms keep two-thirds of original quota due to its isolated location. Capehart Bill has been extended and planners are confident funds will be restored for these 450 units. With money on hand they rate priority in any new construction.

Well Dressed Marines

In his remarks to his staff last January (MCA NEWSLETTER: Feb '61) CMC indicated that he expected "to make a decision soon" on the proposal to adopt a year-round green uniform. His decision: Rejected. Reason: No green suitable material found.

Officer Promotions: Temp & Perm

promotion. Permanent promotion is reasonably automatic, unless you foul up. Average waiting time has been running like this:

2dLt to 1st Lt	**3 years; 1½ years as 1stLt.**
1st Lt to Capt	**5 yrs**
Capt to Maj	**5½-6 yrs**
Maj to LtCol	**3 yrs**
LtCol to Col	**2 yrs; 18 yrs service.**

Why do the times vary so? It's complex, but there are good reasons. Think of the Marine officer population as a pyramid—lots of 2dLts, few general officers. There are 15,300 allowed by law, and only so many in each grade.

But the law establishes a smaller pyramid inside: just 8,550 permanent officers. Reserve lieutenants and temporary officers (whose permanent grade is enlisted) fill out the big pyramid. There's room for the limited number of regular, permanent 2dLts to go to 1stLt in three years. Then it gets tougher as the pyramid goes up and gets smaller.

At the top, permanent promotions to colonel come quickly because the Marine Corps promotes less colonels than the law allows. The extra vacancies allow more temporary LtCols. This means you make LtCol grade and pay sooner, but must wait longer for your permanent promotion.

If the Bolte committee plan becomes law, the Marine Corps would get more permanent officer strength. This could speed up permanent promotions. The Bolte plan may be delayed a good year.

* * * * *

Next best thing to a promotion: a pay raise. What are the odds? Congress may consider a boost to quarters allowance this year or next. Grounded aviators may get "requital" pay—a percentage of flight pay for each year served. DoD is expected to submit a proposal to this Congress. Also, the Navy has urged a $2,000 per year bonus for Reserve officers serving up to 8 yrs. active duty. All these are still fuzzy and Marine Corps has no comment on them.

Already in law is "responsibility pay" for officers. Navy has been urging DoD to authorize funds for this. The Marine Corps has no present plans to use this pay. It's thought the pay differential would create more problems than it would solve.

Golden Wings

After 50 years of Naval Aviation, both Navy and Marine Corps are having trouble meeting flight training quotas. The shortage isn't big, but it's been adding up for five years.

One basic reason: Procurement teams talk to 212.8 prospects for every Marine aviator commissioned at Pensacola. To get 430 officers and 269 MarCads a year requires reaching up to 140,000 individuals—a job that a few procurement teams can't do alone.

Recruiters recommend an all-hands effort. First step, understand the programs. There are now three:

- **Platoon Leaders Class (Aviation).** This is for the college student who wants to finish college and wants to be a pilot. If he qualifies, he's guaranteed aviation. He gets his commission, then goes to Pensacola for 18 months flight training.
- **Aviation Officers Candidate Class.** For college graduates or seniors. After graduation they get 11 weeks pre-commissioning training, their commission, then 18 months flight training at Pensacola.
- **MARCAD.** Applicants with two years college go directly to Pensacola for 18 month flight training as aviation cadets, then get Marine commissions.

Next step, pass the word. Write a friend; better, talk to him. These are good programs; the real problem is just to reach enough applicants. Meanwhile, the whole flight program—benefits, qualifications—is under study. If yearly quotas aren't met, either Marine aircraft will stay on the ground or the pilot corps will get to look like Granpaw Pettibone.

For Marine Daughters

The Marine Officers' Wives Club of Washington, D. C. has set up an annual $500 one-year college scholarship. It goes to the daughter of a regular, retired, or deceased Marine, or of a Reserve on active duty. She must be living within 30 miles of Washington.

Applicants must submit:

- Their handwritten application stating goals and reasons for seeking the scholarship.
- A letter from parent or guardian substantiating the application.
- Character references (not from relatives).
- A letter of recommendation from a senior school authority, to include: grade transcript, character and personality evaluation, estimate of college acceptability, data on extracurricular activities.

Deadline to mail: 29 Apr 1961. Send to:

Chairman, MOWC Scholarship Committee (Mrs. A. L. Bowser)
4503 31st St, South
Arlington 6, Va.

Awards will be based on scholarship, motivation, and need. The winner may attend any college for which accepted.

For Marine Wives

Word that the distaff side signs the checks, makes the big decisions is getting around. Reenlistment Branch is now making a big pitch to wives via shipping over literature inserted in allotment check envelopes. March insert compared old age benefits of Retired Marine vs Retired Civilian. Item: Retired pay of a MSgt with 20 year's service is $2,100; only 13% of the over-65 population, retired or not, beats this amount.

Reserve Careers

First new action as a result of the Reserve Career Plan (NEWSLETTER Mar '61): a new policy allowing on-the-job training for special MOS's in which there's no formal school.

OJT had not been favored, but the Career Plan showed some blank spots. Study indicated that in many specialties (e.g. Law, Journalism) OJT would be *more* effective than formal school. DivRes staffers indicate that most OJT training requests can be met in the following MOS fields:

0185	0802*	1402	2040	3302
0195	0803*	1502	2045	3310
0210	0804*	1802*	2702	3402
0240	1310	1803*	2705	4002
0402	1320	2010	2710	4302
0406	1390	2025	2715	4602

*Co level only.

Russian Aid in Laos

Seven years ago 12,000 French forces camped on a piece of dry grasslands in northern Laos. (See *A Military Briefing on Laos,* page 36.) This was Plaine des Jarres then. Times have changed. So have the tenants. Following is extracted from James Wilde's eyewitness account of the "ominous arms buildup" in this section of the Land of the Million Elephants, as reported by TIME, 10Mar61.

"The entire Plaine des Jarres is bulging with Russian armaments and swarming with Vietnamese. The Ilyushins, which are lined up 18 deep at Hanoi airport, drone in by the hour, bringing 45 tons of equipment a day. About once a week, a convoy of 50 Gorky trucks roll in over primitive Route Seven from Vinh in North Viet Nam. The rebels have more than 60 Gorky trucks, 40 Soviet jeeps, about 25 command cars and six Russian armored cars. They have Kalashnikov submachine guns, Simonov carbines, Degtiarev light machine guns, ZPU antiaircraft machine guns, as well as Russian assault guns and 60-and 81-mm. cannon manned by Viet Minh 'technicians.' The Viet Minh are everywhere. They drive trucks, operate radios, build roads, teach tactics, run a 300-bed hospital in an assembly of tents and shacks. In the village of Phongsavan, a Viet Minh 'people's store' dispenses cigarettes, food and a sweet North Vietnamese liquor called *moka.*"

Testing and Promotion

Marines everywhere began sharpening wits and pencils for first tests of a new GMST program (MCA NEWSLETTER: Jan '61) slated Corpswide on 7 April. Eligible reserves take their tests either one or two days later. Questions are multiple choice, objective type, different for each pay grade.

In this first test period (Charlie-61), SSgts and Sgts who have 30 and 29 months TIG respectively by 30Jun61 are eligible. For Cpls the needed TIG is 19 months by 31Aug61. Composite scores won't be computed.

Marines short of needed TIG can start planning for later test dates (see calendar, better yet, clip it and post inside wall locker or medicine cabinet). Test periods next year are scheduled for same day of the month, first Friday in Apr, Aug, Dec. Reserves won't take August tests.

Most Marines must pass GMST before they can be considered for promotion. There are a few exceptions: test waivers for sickness, training. Also COs can ask waivers on Marines who are actually better assets than shows up on paper. Ref: MCO 1418.12.

What happens if you lack the needed TIG to be eligible for GMST and or promotion? Most Marines must wait it out. A few can skip the waiting period, be promoted meritoriously. COs can meritoriously promote a certain percentage of their Cpls, LCpls and PFCs; meritorious promotion to SSgt and GySgt will be made only by CMC. Generally, the guidelines are the same for all:

- Long sustained performance of duty to a degree rarely attained by Marines of same grade.
- Single meritorious acts such as winning National or higher level shooting matches, or coming up with a new training technique that saves lots of time and money.

PR&EPB

Last February promotion warrants took on a new look, i.e., a bright red official Marine Corps seal placed opposite CMC's signature. Seal took up space formerly used by COs to validate the Marine's continued merit for advancement, but did not preclude their making one. CMC still wants local validation; it can be done by endorsing letter transmitting promotion warrants, returning it to HQMC. It then becomes part of Marine's official records.

What happens if the CO won't sign? He must explain why in his return endorsement. PR&EPB takes over then.

Initials stand for Promotions, Reenlistment and Enlisted Performance Board; to be completely accurate are preceded by another set of initials—CMC. It's the Commandant's special screening board that meets twice a month, does just what its name implies. In the case of a "frozen" promotion warrant, board would make a complete review of available facts, submit a report with recommendation via SgtMaj of the Marine Corps to CMC, who makes final decision.

It works the same in other areas, reenlistment and enlisted performance although the latter now is mostly the responsibility of regular promotion boards. Along with selecting SNCOs for promotion, these boards also at the some time weed out sub-standard Marines.

It's PR&EPB that acts on requests of MSgts (E-7) and below to stay beyond 20 years. A reminder for Marines nearing 20-year mark and who plan on making it a career:

Requests to ship over must be made "not earlier than six months nor later than three months prior to expiration of current elistment." (MCO 1133.17)

Slates Are Out

Att: Majors. Getting transferred? See MCB 1301 of 7Mar61. General publication was not authorized for any of the slates this year. Gomenasai.

APRIL 1961

S	M	T	W	T	F	S
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9	10	11	12	13	14	15
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23/30	24	25	26	27	28	29

STUDY PERIOD

AUGUST 1961

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6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

STUDY PERIOD

DECEMBER 1961

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3	4	5	6	7	(8)	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24/31	25	26	27	28	29	30

GMST Test Dates, Clip for Handy Reminder

MARINES AT WORK: 4TH MEB

By the Brigade Staff

4th Marine Expeditionary Brigade returned from extensive amphibious maneuvers at Vieques, Puerto Rico on 10 March after Atlantic Fleet's first major amphibious exercise of 1961.

Units of the brigade left CamLej in several increments, commencing with deployment of 3/2 under the Commander, 24th MEU in January. In February, 3/8 and 1/6 sailed from Morehead City, N. C. along with the Brigade Staff.

4th MEB is an integrated air-ground task force. Its headquarters group is maintained on a 72-hour alert status at all times; it is periodically activated for planning and local readiness inspections at CamLej.

This headquarters is prepared to leave CamLej, proceed to any trouble spot in the Atlantic Theater. It has the capability of deploying and assuming command of a regimental landing team and a composite Marine aircraft group together with their logistical support elements. The brigade would be built around forces currently deployed.

If the situation demands the commitment of additional forces, it is assumed that the remainder of 2dMarDiv would be committed and placed under the command of 4th MEB Headquarters. Eventually the brigade would be phased out, and replaced by normal division command structure.

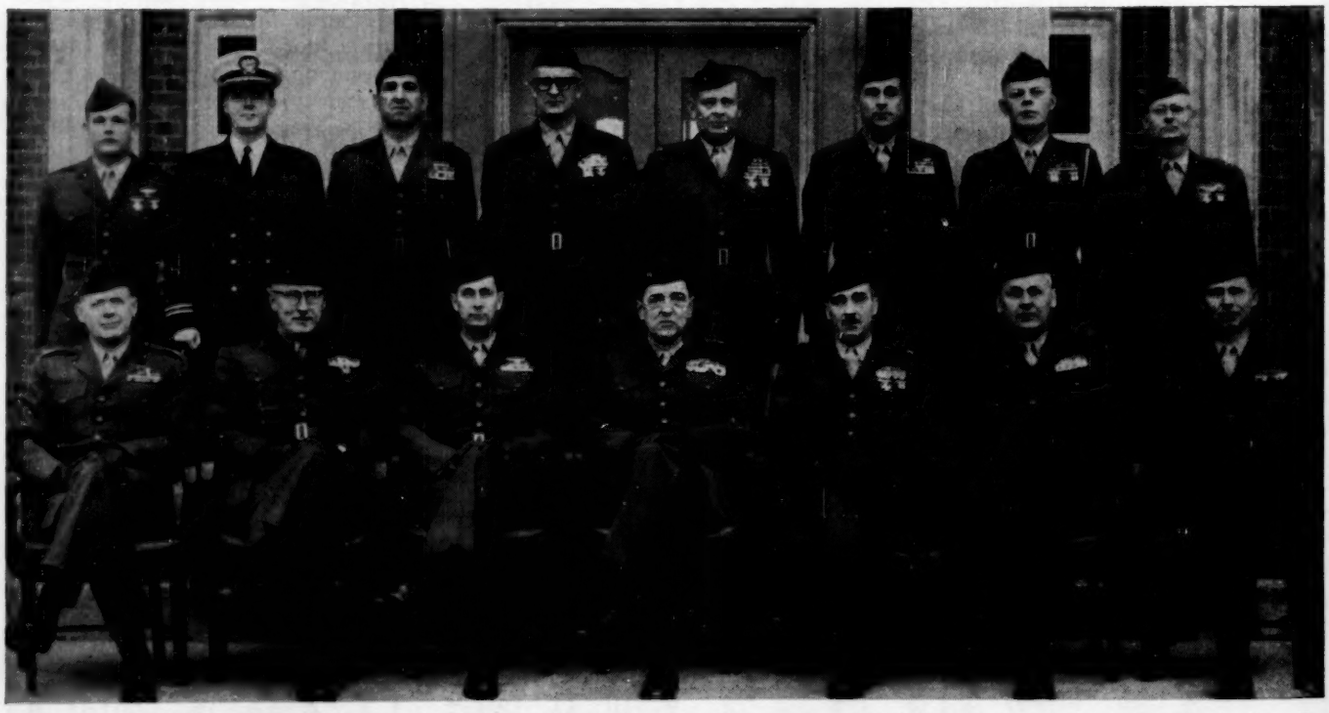
It is for this reason that the Commander of 4th MEB is also CG of 2dMarDiv. Brigade general staff officers are also the regularly assigned general staff officers of the Division.

To provide close liaison between the air and ground elements of the brigade, the C/S is regularly assigned from the 2dMAW. It is believed that another 'first' was rung up on this occasion since the current C/S is the aviator brother of the Brigade Commander. (Both are sons of the late MajGen R. C. Berkeley) The Wing also furnishes field grade officers who serve as principal assistants in the general staff sections.

Brigade Headquarters is divided into a fly-away echelon of some 83 officers and men, and a larger follow-up echelon. The former is dependent upon an AGC or similar installation for communications support. Latter contains sufficient communications personnel and equipment to establish this Headquarters ashore. This echelon also carries the necessary equipment to operate an independent shore-based command post.

Embarkation of BLTs 1/6 and 3/8 at Morehead

COMMANDING GENERAL AND GENERAL AND SPECIAL STAFF
4th Marine Expeditionary Brigade, FMF



Front row: Col M. R. Williams (ACofS G-1), Col J. S. Skoczylas (ACofS, G-4), Col R. C. Berkeley Jr. (CofS), MajGen J. P. Berkeley (CG), Col F. J. Karch (ACofS, G-3), Col W. Hitt (ACofS, G-2), Col E. G. Winstead (CEO)

Rear row: Capt H. J. Bond (AirO), Lt T. L. Kilgore (MedO), Maj J. P. Mariades (ArtyO), LtCol H. I. Dunlap (EmbarkO), LtCol E. E. Schott (NGFLnO), LtCol T. J. Belt Jr. (SupO), Capt M. Greer (Aide), Capt A. F. Butters (Adj)

City, aboard PHIBRONS 2 and 8 respectively, with the Brigade Headquarters aboard *USS Mount McKinley* signified start of LANTPHIBEX 1-61. Upon arrival in the objective area, 4th MEB joined up with the 24th MEU whose ground elements were embarked in the Atlantic Fleet's fast amphibious squadron, PHIBRON 10. (See *Fast Amphibious Force,* GAZETTE: Jan '61.)

Prior to D-Day, all ships participated in a naval parade for high-ranking officers from the military forces of the Organization of American States. On D-2, 24th MEU and PHIBRON-10 staged a demonstration of amphibious power for these guests.

At 0400, 25 February, 4th MEB landed on Vieques. For problem purposes the name Vieques was changed to EREHWON, a large continental type country whose legally constituted government was being harassed by external influences. At the request of President White of EREHWON, the President of the United States had dispatched 4thMEB to assist in restoring the rightful government.

BLT's 3/8 and 1/6 landed over Red and Blue Beaches in a surface assault. At 0640 BLT 3/2 attacked over Green Beach in a combined surface and helicopter operation. A 20,000-yard separation existed between Green Beach and Red and Blue Beaches.

On the evening of D-1 4thMEB reached its planned combat strength when control of composite MAG-4 and BLT 3/2 was chopped from 24thMEU. This gave 4thMEB three assault battalions, the required helicopters, fighters, autocat, and attack aircraft.

Landing was opposed by one rifle company (I/3/8) of aggressors, assisted by 2ndMarDiv umpires. After several days' fighting, rebel forces of EREHWON were destroyed, the legal government of the country reestablished.

This terminated operations of 4thMEB. BLT 3/2 and aircraft reverted to the operational control of 24thMEU and sailed with PHIBRON 10 for CamLej and Cherry Point, completing its operations by making a final landing over Onslow Beach on 4 March. Combined air and surface assault was witnessed by **Secretary of the Navy Connally, Under Secretary Fay, Assistant Secretary (Material) Belieu** as well as a group of key civilian officials from the Office of the Secretary of Defense.

3/8 reembarked aboard ships of PHIBRON-8, visited liberty ports before returning home.

BLT 1/6 remained on Vieques with its amphibious lift, PHIBRON-2, poised nearby in case of emergency backload requirements. The battalion landing team will conduct training on Vieques until its return to CamLej in April.

On 27 February the CG, after passing command to the next senior officer, returned by air to CamLej in order to coordinate activities in connection with the visit of SecNav.

On 28 February, 4thMEB Headquarters sailed with COMPHIBGROUPFOUR for a liberty visit to the ports of St. Croix, San Juan, and Ft. Lauderdale, Florida. On 10 March, it returned to CamLej, completed its report, was deactivated, reverted to its 72 hour alert status.

More Marines at Work

VMF (AW)-114 pilots were first ones to use SATS at Vieques during PHIBULEX 1-61. Four F4D, led by **LtCol W. D. Patterson,** Sqd CO, landed, were arrested (MOREST), launched (JATO) on and off 50x2000-ft aluminum strip laid by MABS-24, 8thEngBn Marines. Other pilots: **Capts R. S. Robertson, J. R. Robson; 1stLt J. R. Smiley.**

LtCol S. N. McLeod's Med battalion 1/2 sampled Greek beaches in a one-week exercise 18-26 March. D-Day was set for 19 Mar at Navplion, after a stop at Athens. The Royal Hellenic Raiding Force helped out, as helicopter and causeway operations were featured.

In EastPac preparations were underway for one of the largest peacetime exercises in years. As of press time units and dates for sea movement were classified. However, 29 Palms will be visited by major air and ground units this summer.

LtCol G. S. Saussy's 3dTkBn slugged it out with Ontos in the hands of **Capt W. R. Kephart's** A/3dAntiTkBn amid a howling snow storm on the slopes of Fuji. Who won? The weather. As for the fighters, both got valuable experience in cold weather mountain tactics. One highlight of many in the two-day exercise: **SSgt Fred Maynard** caught 3d TkBn CP from behind, began triggering Ontos. When the smoke cleared umpires gave him credit for destroying six vehicles. During the battle, tanks were supplied with 20,000 gallons of fuel, gas tanks refilled while on the attack.

Maj D. L. Fenton's VMA-224 back at CPNC after six-month Med cruise aboard USS *Independence.* Relieving squadron was VMA-225.

In a 3dMarDiv artillery switch, **Maj F. K. Purdum's** 1st8-inHowBtry sailed for Okinawa, took up 13-month residence. Making return trip to 29 Palms: 3d 8-inchers.

Operation RAJATA

A 12-day CPX by top WesPac military, seven other SEATO countries, ended 19 March at Korat, Thailand. Holding key billets were: **MajGen D. M. Weller,** CG 3dMarDiv, who commanded one of three task forces of combined SEATO force; **Col V. J. Croizat,** CO, TF 79 (Seventh Fleet), who served as C/S, SOF (SEATO Operating Force.) Exercise commander was Thailand LtGen S. S. Dayananda. US forces were airlifted to Thailand in C-130s, numbered 650 Marines, Army and Air Force troops of far-flung WesPac commands.

At Your TAL

Check for these new, color general-interest films:

SELF—the Mobile Airfield (MH 9446B) 14½ minutes. (Shot during Operation BLUE STAR)

History of Marine Amphibious Operations—Land the Landing Force (MH-8938) 20 min. (Filmograph and art work covering development of amphibious concepts, equipment, doctrine, & tactics)

Honors for Old Glory (MH 9466) 14½ min. (How to display and handle the colors.)

MH-8939 "Single Side Band Radio. (b&w, 20 min.)

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Marine Corps Gazette

Professional Magazine for United States Marines

Published by the Marine Corps Association in order to provide a forum for the expression of matters which will advance knowledge, interest and esprit in the Marine Corps.

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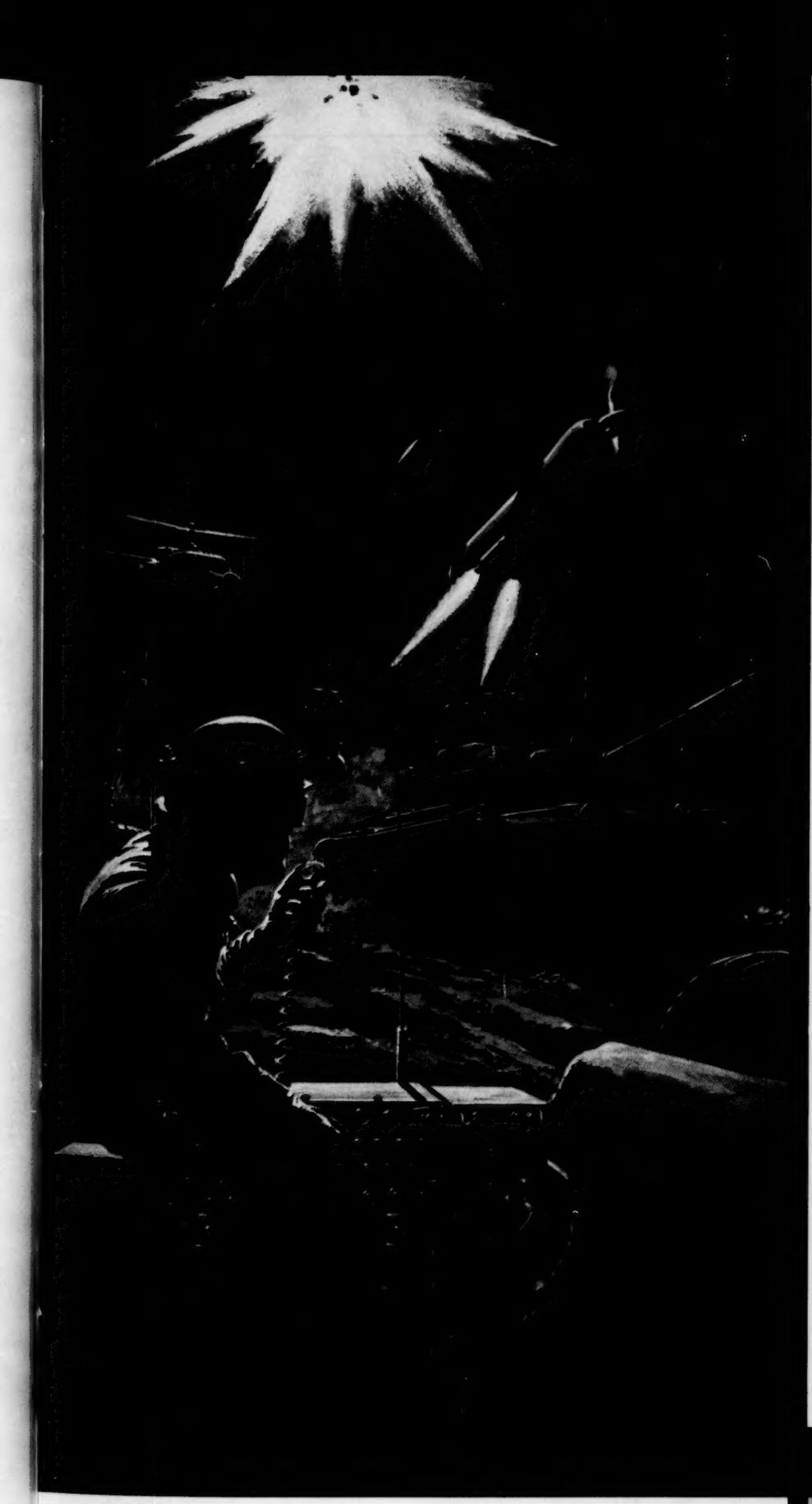
Rates: Officers, 1-yr $5; 2-yrs $9.50; 3-yrs $13. Enlisted, 1-yr $4; 2-yrs $8; 3-yrs $12. Messes, libraries, all others, 1-yr $6; 2-yrs $11; 3-yrs $15. Foreign Postage: Add $1.00 per year to above prices.

Free *Writers Guide* on request.

POSTMASTER: Forward to U.S. servicemen when address changed by military orders (except to FPO) per section 157.4 Postal Manual. Send Form 3579 to Marine Corps Gazette, PO Box 1844, Quantico, Va.

CHANGE OF ADDRESS: must be received by 10th of month before publication. A complete military or home address is required. Duplicate copies cannot be sent.



Avco and... better communication in combat areas

The newest combat area FM communications equipment standardized by the U. S. Army Signal Corps is Avco's AN/VRC-12.

Designed, developed and produced by Avco's Electronics and Ordnance Division, the AN/VRC-12 series utilizes narrow-band frequency modulation, covers 30-70 megacycles, has 920 channels and offers completely automatic tuning.

Rugged and compact—one-seventh the size and two-thirds the weight of the equipment it replaces—the AN/VRC-12 is compatible in every way with manpack, portable and airborne FM radio sets being developed by the Army for use in forward combat areas.

Reducing the problems and enhancing the effectiveness of communications—whether for the Army, Navy, Air Force or NASA—are among Avco's proven and most highly developed capabilities.

If you have a communications problem, why not consult Avco's Electronics and Ordnance Division. Write: Director of Marketing, Communications Section, Electronics and Ordnance Division, Avco Corporation, Cincinnati 15, Ohio.

Avco's AN/VRC-12 combat area FM communications equipment.

Avco / **ELECTRONICS AND ORDNANCE** DIVISION

MESSAGE CENTER

For letters of professional interest. Length: up to 250 words. Rates: up to $25.

Give Them the Air

. . . A major procurement problem facing the recruiting service is getting candidates for flight training. Recruiters make a maximum effort to meet aviation quotas but progress is slow.

Here are some ways Marine Officers and NCOs can help:

- Be thoroughly familiar with aviation programs.
- If you know an eligible prospect, sell him on the program.
- Pass the word along.

It seems some Marines don't know how we get aviators. (See page 2).

Here's what you can do specifically: If you know a physically qualified young college man (or about to become one), write to him or see him personally. Sell him on merits of a pilot's career.

Many of you have friends with eligible sons. Talk up Marine Aviation to them.

Many of you know civilians who work with prospects. Be sure that they know about pilot programs.

If you know of a prospect or want someone to have aviation literature, pass the name along to local DirMCR&RD.

If overseas you can still help. Mail is an effective way to sell. Stateside there is no question that you can do some good, especially if you have some contact with civilian communities.

Last of all, don't be a chest thumper for ground pounders only. I recently talked to a young man who had been told by a hard-charging Marine (0302) that the real Marine Corps was on the ground. If you believe in the Marine Corps you believe in the whole program.

For some reason aviation is not as attractive as it used to be. Maybe it's because we're not doing all we can to sell it. When you read this letter ask yourself: Am I doing all I can to sell the Aviation Program? If the answer is no, DO SOMETHING NOW!

Maj John Zorack

ProcAids
HQMC

Slim and Trim, Anyhow

. . . To further expand on the ideas presented in my article "Fit to Fight" (OBSERVATION POST: Jan '61):

First. Why not couple the physical readiness team competition with the Unit Combat Marksmanship Competition? Put these two tests together and we'd have a real power-packed test of stamina, endurance and skill. We'd cause the physical readiness test to be run first in a given overall time, say one hour. This allows adequate time for rest between each individual test. Add 15 minutes for rifle cleaning at the end of the test after which the squad then shoots the Unit Combat Marksmanship Course. Result: a complete package that tests stamina, endurance, mental and emotional stability and marksmanship with a body that has been placed under physical stress and strain.

Second. Why not stimulate interest, competitive type, and push the above test by mail competition between units and organizations. It's a simple matter of sending out a challenge, setting time and date of meet, conducting test, certifying and forwarding results to your opponent.

These programs will build spirit, morale and create added interest in the program.

Let's get with it! Slim, trim and away we go!

Maj Samuel L. Eddy, Jr.

H&S Co, 3dAmTracBn
1stMarDiv FMF CamPen

Calling Leo Gajewsky

. . . In connection with the fine articles in January GAZETTE, these comments:

It is significant to know that the big-letter word posted on each side of Lenin's photo (bottom page 17) is translated as "PEACE." But in the Russian dictionary the word also means "WORLD."

So when we hear Soviet leaders say "Ja Khucho Mir" it can be translated as I Want Peace" or "I Want the World"—or both. Maybe they feel that in order to have one they've got to have the other.

As to illustration of NATO situation on a chessboard, I, as a chess player, would like to give the situation as I see it:

USSR has pawns spread all across the board with other pieces in support. But we have strong control centerboard with our queen, bishops and rooks ready to attack their king the moment one of their pawns is moved forward. So what they like to do first is force us out of the center, back to our own side.

Paul G. Martin

8869 20th Ave.
Brooklyn 14, N. Y.

Ed: Former recon Marine Martin stands two pawns up. Prior to WWI the Russian word for "World" was spelled "Mip." On 10Oct18, the letter "i" was abolished from the Russian alphabet, replaced by Russian "E" (character resembles a reversed Englsh "N"). The two words now appear identical in spelling, sound the same, i.e., "Mer" (pronounced "Mare'roar").

Money for Marines

. . . Capt Grant's "Money and Marines" (GAZETTE: Jan '61) proves that simplicity is still a basic principle. I come not to find fault but rather to point out an error-of-omission.

Breaking out the trusty *Financial Accounting Manual*, which I am more or less affiliated with in the work that I do, I find *six* not *four* appropriations. I must confess that one, "The Marine Corps Stock Fund" appropriation, was news to me and I hurriedly ignored it. Not many supply officers can afford to.

My real reason for breaking out FAM was to dig out the truth about an appropriation called Research, Development, Test and Evaluation, Navy. This is a unique little bundle that has as its Marine Corps "package" some twenty million buckniks, give or take a few K. This appropriation is of the no-year variety and I believe there are no open allotments to the field at the present time. What is known in the game as Project Orders are the vogue for field units.

A look-see into this appropriation would do much to uncover the mystery of all that new gear being introduced and/or promise to the Marine in the FMF. Perhaps Mr. Grant can do as well with this other source of $$$$ as he did with "Money and Marines."

Maj J. A. Schimmenti

MCLFDC
MCS, Quantico, Va.

Cleaning House?

. . . That worn and dusty document might be invaluable. Please look carefully before discarding it. If it relates to amphibious warfare, or to the development of Marine Corps doctrine, tactics, techniques and equipment, it is probably a good candidate for the Historical Amphibious File. Documents donated to this file will be preserved in the donor's name. Pleace write: The Director, Marine Corps Educational Center.

BGen J. C. Miller, Jr.
Director, MCEC
MCS, Quantico, Va.

Shining Example

. . . Reading PLC Roberts' answer to the spit shine finger (SCRAPBOOK: Feb '61) recalled to mind how my brother-in-law, a druggist, solved this problem for me. He suggested finger cots.

I bought three of the cots off him, figuring they just might work; also I was putting money back in the pocket that had fed me so many times. Felt a lot better after paying the nine cents.

Rubber finger cots slip on easily, may be stored with the shine gear, last for months. Resupply at your corner drugstore.

Capt Joe B. Noble

525 Knollwood Dr.
Falls Church, Va.

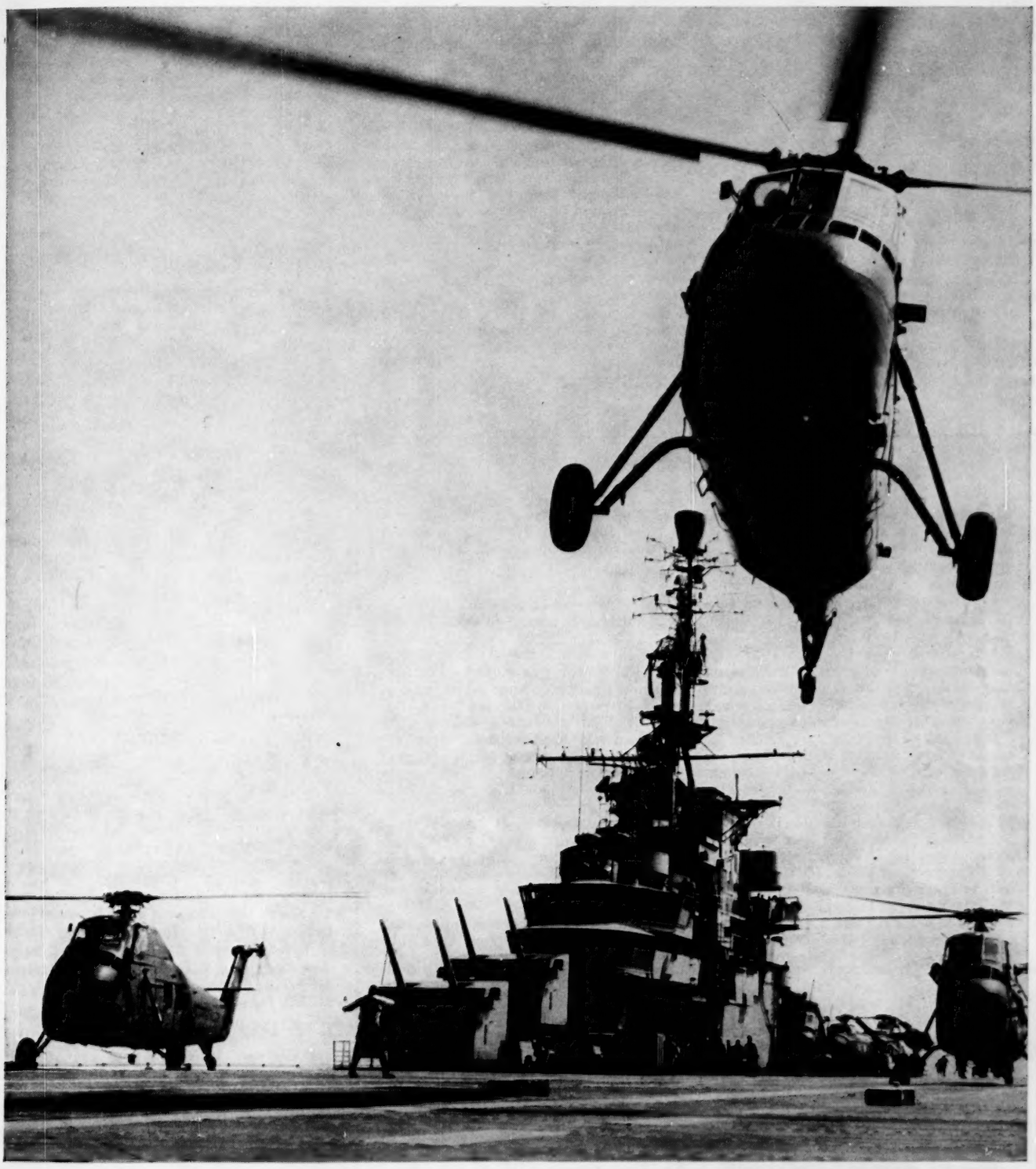
Do Be or Don't Do Be

. . . "Don't be a hard charger," says Capt G. E. Spring (OBSERVATION POST: Jan '61). Good grief, man, that statement is the very antithesis of Marine Corps training! Better not to be than not be a hard charger. Is the term "hard charger" derogatory? Not to my way of thinking. The hard charger to my understanding is the individual with initiative and drive. The term in a more literal sense denotes "a horse intended, or suitable, to be ridden in battle." It implies a going forward, hardly bad.

"A platoon led by a hard charging second lieutenant can get 1000 meters beyond supporting arms range and be wiped out if he's not careful." Granted, the range of supporting arms is an important consideration, however it should not be the primary concern of a platoon leader in battle; the mission comes first. Granted also, the platoon might be wiped out, careful or not; but then again, it just might take the much-needed hill.

"Hard chargers need the cooling off period. . . ." Let's not cool off the hard

(Continued on page 10)



VERTICAL ENVELOPMENT...a new kind of beachhead—inland

Bypassing beaches and fortified positions, today's Marine assault forces strike at key inland objectives by helicopter. This vertical envelopment tactic, a product of remarkable air-ground teamwork, is the newest chapter in the story of a traditional Marine Corps capability—amphibious warfare.

The HUS (above) is the third generation of Sikorsky troop and transport helicopters to serve the Marines. It provides a troop capacity of 18, a litter capacity of eight, or a cargo payload of 4,000 pounds for a distance of 100 miles. More than 1,200 of these Sikorsky S-58 types—in military and civilian configurations—are now flying daily routes and missions all over the world.

A New World of Mobility by

SIKORSKY AIRCRAFT

Stratford, Connecticut
A Division of United Aircraft Corporation

(Continued from page 8)

charger; let's keep him hot. Let be the two up, one back, and go like hell! Come dawn, and as the sun rises over the Mekong, may Ares grant that the hard charger is in command of the field.

1stLt A. J. Orth

Marine Barracks, NAS
Moffett Field, Calif.

Left Out

. . . This company not included in "Report from the Ready Forces" for FMFPac (GAZETTE: Dec '60). From this I can assume we are to be featured in a future issue. When do you want our draft to reach you?

May I suggest cover feature our company patch and a para-Marine astride US 101 (our battleground) with Camp Del Mar background?

Maj R. G. Hunt, Jr.

CO, 1stForReconCo
1stMarDiv FMF CamPen

Wrong Answer

. . . With reference to question six, EXTENSION SCHOOL CHALLENGE (GAZETTE: Feb '61) and the answer on page 63 of that issue, I wish to call attention to the incorrect answer given. This was probably due to quoting an obsolete field manual.

FM 30-5, Jan '60, App XI, Para six and seven gives definition of "committed forces" and "reinforcements." Based on Para 6b and 6c(2) answer "a" would only be partially correct, "Committed forces are those enemy ground units, their immediate reserves, and their supporting ground fire units, committed against the friendly unit . . ." and further, "A division G-2 usually counts committed forces in terms of battalions."

Therefore, to division G-2, reserve battalions of committed regiments would be considered as reinforcements.

Capt W. M. Rush

Ft Holabird, Md.

Same Outlook

. . . Just finished reading "Sheep in Wolf's Clothing" by Maj W. D. Chapman and LtCdr H. R. Lund in December *United States Naval Institute Proceedings.*

The result on me was shocking. I had been completely unaware that field grade officers had the same outlook toward present day armed forces as senior NCOs and, in some instances, junior NCOs.

I believe the GAZETTE should reprint this article. It would surely build enlisted morale.

GySgt M. J. Flashner

CommElec Sch
MCRD, San Diego

Ed: We appreciate ideas for reprints and pay a "finders fee" for those used. Normally, we prefer a less familiar source than *Proceedings.*

Nameless Salesmen

. . . Like they always say: "I couldn't put it down"—February GAZETTE, that is.

Comments bordering CMC's message are good check off lists to keep handy. I keep mine under glass. If we could get 100% backing from our professional officers and SNCOs, they could all reap the benefits found in the GAZETTE.

Maj Geissinger and Lt Miller have done the Corps a service by their firsthand accounts of "Transplacement." This idea is a reality due in no small amount to the "salesmanship" of many, nameless though they be. Full fruit will be brought to bear when regimental CPs move overseas concurrently with a second battalion.

Capt J. W. Dion

MB, NA&ND
Seal Beach, Calif.

Two Hands Have It

. . . New method of using two hands when firing the pistol is a step in the right direction. Now we must come up with a flexible, practical combat firing course.

A new, lively pistol course would not only prepare Marines for combat, but would tend to rid the Corps of the notion that US Pistol, Cal. .45 is old hat. It would give the pistol new life, point up the reason why so many of us are armed with it.

Sgt F. G. Gleason

1st Recruit TrngBn
MCRD, Parris Island

. . . Re Question of the Month, Jan '61: I say yes! Why? Because use of both hands makes it possible to shoot accurately at long range. Also it's a big help after running or when hands are unsteady from being tired or when nervous.

R. J. Segan

5236 S. Peoria St.
Chicago 9, Ill.

Ed: Former Marine Segan, now a Chicago police officer, has been using two-handed pistol grip since joining the force in 1953.

. . . Too many Marines report to the pistol range at requal time with the attiture, "I could do better throwing rocks." Firing a pistol with accuracy requires confindence in one's self and confidence in the weapon.

I believe this two-hand grip may give that self-confidence to the "border-line" shooter, the Marine who cannot qualify year after year. The experienced shooter knows that sight alignment is most important in

(Continued on page 12)

Here to Stay

Ed: Question of the Month for January, 1961 asked if the two-handed pistol grip was here to stay. All but one letter agreed that it is; answers closely parallel this prize-winning entry by Capt B. F. Ogden, CO, HqBtry, 1stFAG, ForTrps, 29 Palms, Calif., who backed up his argument with some revealing statistics:

. . . Despite the fact that the 1960 Olympic rapid-fire pistol champion is a Marine [Capt W. W. McMillan] the average Marine armed with the .45cal pistol is not proficient with his weapon.

Few will dispute the contention that the .45cal pistol, M1911A1 is a tough weapon to master. Countless articles have been published on this subject—proposals range from "try harder" to voicing a need for a new handgun. Some merit in most articles of this nature, but the fact remains that this weapon will always be with us. How then, can we improve our ability to master it?

It is readily apparent (to beginner as well as expert) that excellence in marksmanship is primarily attained through practice. Yet each year the average Marine armed with the pistol only fires 250 rounds—200 rounds for practice and 50 rounds on record day. This limitation actually simplifies the problem, which reduced to basic terms, is the improvement of proficiency within the prescribed limits which define the course to be fired and the amount of ammunition authorized.

The most practical solution is invariably the least obvious, although in this instance it is ridiculously simple. Of course, I'm referring to using both hands.

"Two hands" explodes the old gent in the campaign hat seated at the end of the bar, followed by a few well chosen but unprintable remarks about tradition, etc. Well, let's see.

MCO 3574.2 Ch 1 dtd 27Jul60 authorized the optional use of two hands for pistol qualification firing. Marines began firing this way at MCB, 29 Palms, Calif. last September. The following record compiled by the pistol range at that base speaks for itself:

1959 Pistol Qualification Record

Ex 25%	SS 32%	MM 32%	Unq 11%	Total fired: 287

1960 Pistol Qualification Record (Jan-May)

Ex 34%	SS 30%	MM 22%	Unq 14%	Total fired: 194

Sept thru Dec (Range closed Jun thru Aug)

Ex 50%	SS 32%	MM 16%	Unq 2%	Total fired: 358

"Humph" mutters the old gunny, "Anyone can fire with both hands." Precisely. I tried it in October.

Monday was devoted primarily to discovering a comfortable position. It feels and appears awkward at first and first reaction is apt to be one of skepticism.

Second day can be devoted to basic fundamentals of sight alignment and trigger squeeze.

Continued emphasis on these factors on the third day produces a profound sense of confidence as the shooter realizes his rounds are striking where he intends them to. Good groups are common down the line.

No longer does record day find the shooter apprehensive and uncertain. Instead, he confidently takes his place on the firing line, records a creditable score. The overall effect is most satisfying. Having demonstrated that he can readily place effective fire on a target at a known distance with a minimum of practice, the shooter has attained the primary objective of basic marksmanship training—confidence in himself and his weapon.

A significant step has been taken, but the ultimate goal has yet to come. Combat pistol ranges must be built, then used, in order that basic marksmanship can be translated into effective combat marksmanship. In both phases of training, the two-handed grip is most effective whether the shooter is a radio operator or platoon commander. There is no doubt that it is definitely here to stay.

RCA AIRBORNE SINGLE SIDEBAND

Performance proven in Operation "Deep Freeze"

RCA's single sideband modification of the 618S-1 high frequency communication equipment has demonstrated proven capability under actual flight operations during Operation "DEEP FREEZE," now being conducted jointly by the U. S. Navy and U. S. Air Force, with the support of MATS.

The RCA concept of modifying proven, existing equipments, such as the AN/ARC-65, has resulted in the most economical approach to the utilization of single sideband performance capabilities. The 618S-1/MC and AN/ARC-38A SSB modifications are the latest additions to the family of RCA Communications Equipments now providing extra capability to meet present and future military and civil operational communications requirements.

Several thousand RCA Airborne Single Sideband Equipments are now in flight operation.

For further information on the 618S-1/MC, AN/ARC-38A, and other airborne communication equipments write: Marketing Dept., Airborne Systems Division, Defense Electronic Products, Radio Corporation of America, Camden 2, New Jersey.

RCA

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Like a powerful searchlight—the new AN/PIQ-5 concentrates a penetrating "beam of sound"...to *project* commands to distant, scattered personnel.

It is fully transistorized, watertight, and runs on standard flashlight cells. Bulk and weight are drastically reduced. Flexibility of design permits use as a "one-piece" megaphone... as a portable or remote P.A. with detachable hand-held microphone...or as a broad-coverage dual hook-up. AN/PIQ-5's are now being delivered to the U.S.M.C.

Specification
CSY-3-FY-59-10
(FSN: 5830-688-6633)

For complete description, write:

Audio Equipment Co., Inc.
P.O. Box 192
Port Washington 51, N. Y.

(Continued from page 10)

pistol marksmanship so he doesn't have a mental block develop because he can't hold steady a three pound weight at arm's length. The two hand grip will cause less shaking, allow the Marine to concentrate on the fundamentals of sight alignment and trigger squeeze.

The two-hand grip is here to stay because it will increase qualification percentages, cause a shooter to have greater confidence in the pistol, bring about pride in the individual Marine, and will save lives in combat.

Capt C. H. Cullum
MCSC, Albany, Ga.

. . . The two-handed grip for pistol shooting is here to stay. It's a comfortable, natural position for both garrison and field firing. It can be effectively used by all Marines, with a minimum of training, to get the best possible effect from one of our basic infantry weapons.

The old pistol position was unsatisfactory on the range and in the field because it caused shooters to contort their bodies into unnatural attitudes.

The new grip and attendant body position, puts the shooter's body in a natural, relaxed position where he can concentrate on trigger and sight alignment, not on his quivering pectorals.

Capt Carl C. Hossli
771 Ave 'D', Apt 'F'
Coronado, Calif.

. . . By all means the two handed pistol grip is here to stay! Physically, it has several advantages over the old position. It is more accurate, steadier, aiming is practically automatic, the body is better balanced, it is easier to hang onto the pistol, etc. But above all, the new position is a *fighting stance*. Compare the two methods. The old has a "Gentleman Jim-Sunday Stroll" air while the new, a Marine Corps "I'm ready, let them come!" attitude. Truly a realistic position.

Maj C. B. Sturgell
614 Potomac View Ave.
Woodbridge, Va.

. . . Is the two-handed grip here to stay? Maybe. Most users report a better score with less practice.

Personally, I don't believe either method is a complete solution, due to the fact the .45 was designed for close-in fighting, not target practice. I've always hoped someone, with more knowledge and experience on the subject than I have, would come up with an assault course wherein you could be walking, standing, sitting or lying down while trying to put holes in a target. Most of the firing could perhaps be done at close range, in confined spaces and using split second snap firing from the hip or otherwise.

I could never imagine myself in any position, aiming at an enemy at 25 yards or less, gripping the .45 with one or two hands fully extended in front of me, holding my breath, gently squeezing the trigger. Not while the enemy was trying to kill me first.

Just give me a pocketfull of rocks or a good, light automatic that will fire 25 to 50 rounds without reloading—something I could get hits with without too much aiming and squeezing.

1stSgt A. F. MacLean, Jr.
Marine Barracks, N.A.D.
Concord,California

Whoops!

. . . Two-handed pistol grip is a psychological crutch for those who "just can't shoot that .45." Recently I've been in position to poll all kinds of shooters on this subject. Consensus is as follows: productive for the unqualified but little or no improvement for the majority of *pistol shooters* in the Marine Corps.

In combat situations two-handed grip is not as adaptable as firing with one hand. It doesn't fulfill all requirements for exclusive use over Combat Pistol Course. Another indication of a short life is its non-acceptance in match shooting.

On the basis of these and other considerations I contend it will never assume a place on the firing line with the campaign hat and spotting scope.

1st Lt R. L. Rau
Rifle&Pistol Team
3dMarDiv
FPO, San Francisco

'Copters Aboard, Too

. . . To helicopter squadrons in general and to officers and men of HMR 261, 262, 264 and 461 in particular, my apologies. Through a gross oversight the very important HMR was omitted from the list of units embarked by "The Fast Amphibious Force" (GAZETTE: Jan '61).

Along the lines of "single sheet" loading plans (MCA NEWSLETTER: Nov '60), let's learn how to draw up the "old" loading plan first. LtCol F. A. Long's "Signposts On the Royal Road" (GAZETTES Apr '60) should be required reading for Marines concerned with embarkation.

Capt R. A. Stephens
Staff, COMPHIBRON 10
FPO, New York

Twit For Tat

. . . Please send copy of Writers' Guide. Your magazine is truly outstanding now.

For a while the Corps seemed intent on becoming what our Army brethren have been known to twit us for being: A fouled up little army run by the Navy.

Such articles as the recent ones by B. H. Liddell Hart and George Fielding Eliot serve to remind us that the Marine Corps is an instrument of naval warfare; that such warfare has developed a capability and potential never dreamed of by Adm Mahan.

Col W. W. Barron
5990 Riverside Dr.
Atlanta, Ga.

Question of the Month

In Troop Tests, 4th Marines had to put 53.4 pounds on the rifleman; only with the help of Mechanical Mules were 1stMar Div rifle companies able to cut loads appreciably (see *Looking Ahead,* MCA NEWSLETTER: Mar '61). Question: Is 35 pounds a realistic combat load? What is? Twenty-five dollars for best answer by 10Jun61.

Extension School CHALLENGE

BASIC

1 Normally, a division's pyrotechnic code is found in:

a. The division's COMMSOP.

b. Paragraph 5 of the division's operation plan or order.

c. The communication-electronics annex of the division's operation plan or order.

d. The division's COI.

2 The principal resistance area in a position defense is known as the:

a. Battle area.

b. Main defense area.

c. Primary defense area.

d. Forward combat area.

3 Normally, in attempting to disperse a crowd during a domestic disturbance, the troop commander's first step would be to:

a. Fire blank cartridges over the heads of the crowd.

b. Use tear gas.

c. Display his military strength and intent to impress the crowd.

d. Confer with the crowd leaders.

JUNIOR

4 In the mobile defense the favorable characteristics of the tank are best exploited, and the limitations are minimized, when the preponderance of tanks are employed with the:

a. Security forces.

b. Forward defense forces.

c. Striking forces.

d. Main battle position.

5 A night attack made to exploit success gained during daylight hours should be made:

a. Shortly before daylight.

b. Shortly after dark.

c. Shortly after midnight.

d. Sufficiently far in advance of daylight to allow time to seize the objective and establish a defense.

SENIOR

6 The amphibious task force commander assumes responsibility for the control of all air operations in the objective area:

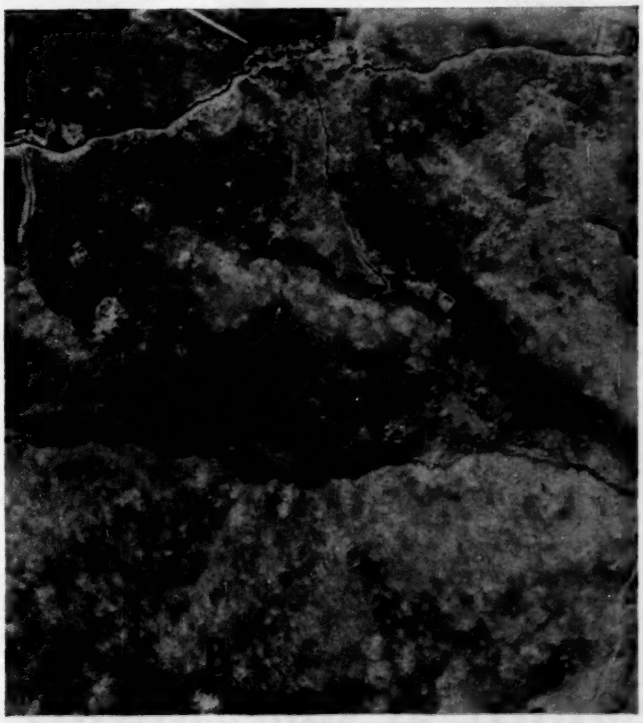
a. Upon his arrival in the objective area.

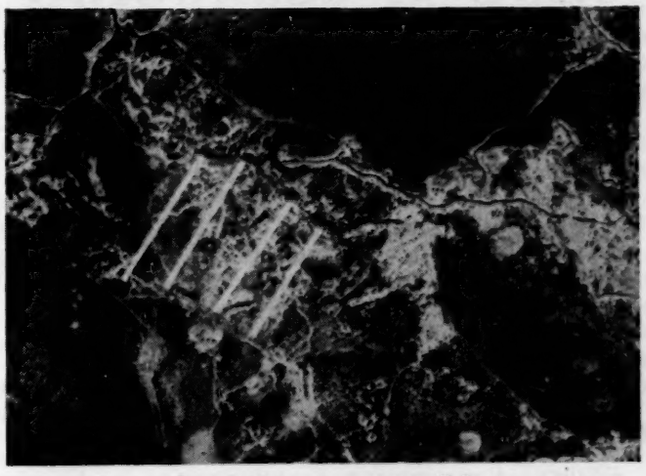
b. Upon receipt of the initiating directive.

c. Upon commencement of pre-D-day operations.

d. After the landing force control agencies are well established ashore.

WHAT IS IT?





Answers on page 64

★ ★ ★ ★

A Gunny recently echoed thousands of fellow Marines when he said:

"Learned more about map reading than I ever learned from 12 years in training periods. A must for every staff NCO."

Get on the right azimuth, enroll in the Officers Basic Extension Course TODAY!

PROFESSIONAL SCRAPBOOK

This department aims to present briefly ideas of wide or lasting use. We want: professional tips, quotes, reprints, digests of articles from professional journals, translations—all of interest to Marines. We'll pay for your help in finding old, new or original material of professional value.

The Place of the Low Disc Loading VTOL in the Future Manned Military Aircraft Spectrum

By C. E. Davis, L. M. Graham, and R. H. Lynn

Extracted from the *Journal of the American Helicopter Society, Jan '61*

"During the past ten years, there has been a revolution in military aircraft procurement as dramatic as that associated with the introduction of the airplane into military planning in the early part of this century. With the exception of utility and reconnaissance aircraft, and perhaps a limited number of strategic bombers, manned military aircraft are being replaced by the more sophisticated, lethal, and costly missile. This fact may be seen by reference to military aircraft research and procurement figures published during the past few years. Even more impressive, by way of illustration, are our newspaper accounts of the economic consequences of the aircraft industry's changeover to the missile and space age.

"There is one type of manned aircraft, however, which is going counter to this general trend. That type is the vertical takeoff and landing aircraft, the VTOL. During the past decade, the increase in use and utility of the helicopter has been as striking as the transition to missiles. This statement has particular significance when consideration is given to the limited budget allocated to the entire VTOL field.

Basic Requirements—VTOL

- Safety — Comparable to existing helicopters.
- Stability & Control — At least as good as existing helicopters.
- Good Performance.
- Low Downwash Velocity—For flight and ground personnel safety and comfort and for all terrain landing capability.

"These requirements may seem obvious, perhaps even trite, but many existing VTOL developments violate one or more of these fundamentals. All *significant* developments in the convertiplane field must possess these characteristics.

"Since the helicopter is so firmly established as a means of transportation, it is apparent that with proper research effort, helicopter speeds, range and usefulness will increase significantly during the next five years. Helicopter cruise speeds will increase from the existing 100-120 knot to the more efficient 150-170 knot regime. Helicopters can be designed to have dash capability up to speeds of 200 knots. Figure 1 shows an artist's conception of a 175 knot armament carrier helicopter designed around the dynamic components of the HU-1. Notice the very clean fuselage. Such considerations will be more in evidence in the future.

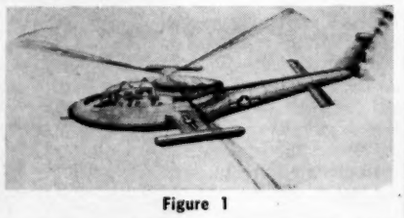


Figure 1

175-Knot Armament Carrier Helicopter

"The helicopter is destined to have its place in the manned military aircraft spectrum on into the indefinite future. Even though the future of the helicopter is assured, there are VTOL missions which require speeds and ranges greater than either the pure helicopter or simple derivatives of the helicopter are capable of efficiently attaining.

Speed Potential vs Disc Loading

"For this discussion, let us consider a very clean convertiplane of 25,000 pounds gross weight.

"Figure 2 shows a plot of disc loading vs. design maximum speed for this aircraft.

'The solid curve shown represents the disc loading vs. speed for this particular clean aircraft where the power required for high speed and hovering are equal. Designing on this curve will generally result in a maximum payload. The shaded area represents the probable maximum variation of speed expected due to the different values of fuselage drag which may be realized in various designs.

"The disc loading which produces a hurricane velocity (75 mph) is also shown as the horizontal line on the figure. To satisfy the basic VTOL requirements, downwash velocities must be well below that associated with this disc loading.

"Somewhat arbitrarily then, let us say that a disc loading of 9 is taken to be the maximum. Under this limitation, the machine can be designed conventionally up to about 300 knots; that is, designed so that hovering power equals high speed power.

"To investigate a higher maximum design speed, let us consider several aircraft designed for a 360 knot maximum speed requirement. In all cases, the same fuselage drag and prop-rotor efficiencies will be assumed.

"The first machine (1) noted on Figure 2 is designed on the curve at 360 knots and will have an unacceptable super-hurricane downwash velocity. For this convertiplane the disc loading is 25 and the power loading is 4. The use of two rotors will give a rotor diameter of 25.2 feet.

"The second machine (2) is designed by simply lowering the disc loading to the acceptable value of 9. This machine

will have excess hovering performance, but does suffer a payload reduction because of the heavier rotor drive components. The rotor diameter is 42.1 feet for a twin rotor configuration.

"To achieve the high speed requirement, there is yet another approach which is made possible by the advent of the turbine engine. This approach involves the introduction of the concept of a mixed, or compound, power plant installation. With the flexibility and efficiency of the turbine engine it is possible to employ either separate turbo-jet and turbo-prop engines, or a single engine which can be controlled to produce the correct amount of shaft power and jet thrust. By the use of such mixed or compound power plant installations, it is possible to use the power producing capability of each of these types most efficiently for both the hovering and high speed flight regimes.

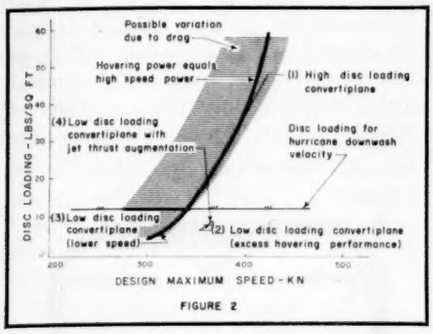
"Let us now consider designing this next aircraft of the family with a mixed or compound power plant installation (4). In this case, the prop-rotor system is designed to transmit only the torque required to hover at the limit disc loading of 9. Jet thrust devices are added to supply the additional power required to achieve the design speed.

"To evaluate the price of speed, let us also consider the intermediate convertiplane (3) which does not have the full speed capability but does have hovering performance equal to the high disc loading machine. Figure 3 shows the significant parameters of these convertiplanes.

"A weight breakdown for these aircraft is given in bar chart form by Figure 4. The first bar represents the high disc loading machine with super-hurricane downwash. The second represents the low disc loading machine with excess hovering performance. The third is the low disc loading convertiplane with the lower speed requirement, and the last is the convertiplane with a mixed propulsion system.

"In all cases, a calculated bare airframe weight of 25 per cent is used. Although this value was calculated from weight prediction formulae, it is a representative figure based on design studies of specific aircraft in a similar category. Perhaps the lower speed convertiplane suffers a little in this regard.

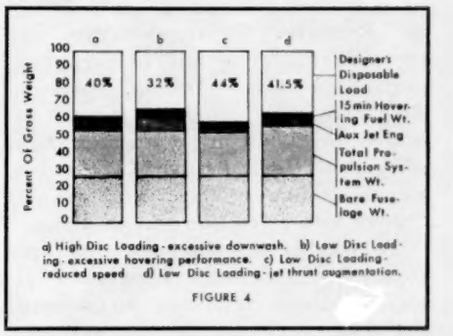
"As can be seen, the total propulsion system weight increases when going from the high to the low disc loading when the high speed requirement is held constant; i.e., aircraft (1) to (2). The increase in propulsion system weight in this case is due to the increased torque of the larger rotor.


Possible variation due to drag
Hovering power equals high speed power
(1) High disc loading convertiplane
(4) Low disc loading convertiplane with jet thrust augmentation
Disc loading for hurricane downwash velocity
(3) Low disc loading convertiplane (lower speed)
(2) Low disc loading convertiplane (excess hovering performance)
DISC LOADING - LBS/SQ FT
DESIGN MAXIMUM SPEED - KN
FIGURE 2

CONFIGURATION*	(1)	(2)	(3)	(4)
Gross Weight, lbs	25,000	25,000	25,000	25,000
Maximum Speed, KM	360	360	304	360
Power Loading, lbs/hp	4	4	6.7	4 (rotor 6.7)
Disc Loading, lbs/ft²	25	9	9	9
Diameter, ft	25.2	42.1	42.1	42.1
Auxiliary Thrust, % G.W.	-	-	-	7
f, sq ft	10	10	10	10
Propeller Efficiency	.8	.8	.8	.8

*(1) High Disc Loading (Unacceptable Downwash)
(2) Low Disc Loading (With Excess Hovering Performance)
(3) Low Disc Loading (Lower Maximum Speed)
(4) Low Disc Loading (Jet Thrust)

FIGURE 3



a) High Disc Loading - excessive downwash. b) Low Disc Loading - excessive hovering performance. c) Low Disc Loading - reduced speed. d) Low Disc Loading - jet thrust augmentation.

FIGURE 4

Conclusion

"In conclusion,

• Helicopter experience indicates that any significant development in higher speed VTOL aircraft should be based on a machine which is versatile, and which possesses the stability, operational and safety features at least as good as existing helicopters. We simply cannot afford to digress from those favorable characteristics which we have been able to achieve in helicopters.

• These characteristics can be achieved, to a major extent, by providing such vehicles with low disc loadings.

• Finally, low disc loading *and* high speed are compatible if the concept of mixed or compound power plants is introduced. Further, in the higher speed range, the concept of mixed power plants can lead to an important weight advantage."

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PROFESSIONAL SCRAPBOOK

A Better Way

To Conceal the CP

By Sgt W. E. Kinkopf

RECENTLY MY ORGANIZATION HAD the time-consuming task of garnishing camouflage nets. During operation *Blue Star,* early last year, the CP required predominantly brown or light red garnish. With periodic CP exercises, we are constantly faced with the old "brown side, green side out" dilemma.

To combat this dilemma, and time consuming extra work, I suggest a factory produced reversible pregarnished net with green cast on one side and brown on the other. Hours consumed in the task of garnishing camouflaged nets could be used to the advantage of the Marine Corps by allowing more time to conduct needed training in military subjects and technical jobs. Another asset: wider choice of sites for the CP, as the camouflage would already fit the terrain.

USMC

H&S Co, 3d PioneerBn
3dMarDiv, FMF, c/o FPO
San Francisco, Calif

A Better Way

To Remove Scratches

By Sgt E. J. Thomas

FIND IT HARD TO SHINE THE BILL OF your frame cap? Too many scratches and/or nicks to get a real high lustre? Try this simple method and solve your problem.

Squirt a couple of drops of lighter fluid on a soft rag and gently rub the bill. Don't rub too hard, nor in one spot for any length of time. The polish will quickly "melt," and fill all scratches and nicks.

After you come up with a smooth surface, start to shine. Result: a high lustre, and scarless bill. It works on shoes too!

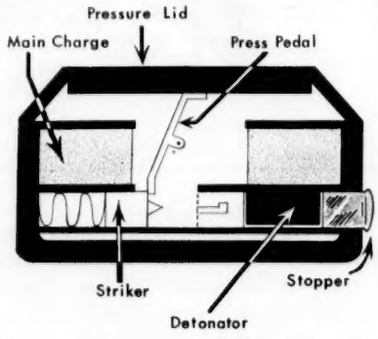
USMC

31 Norris Dr
Midway Is, Va

Red Mine—PMK-40

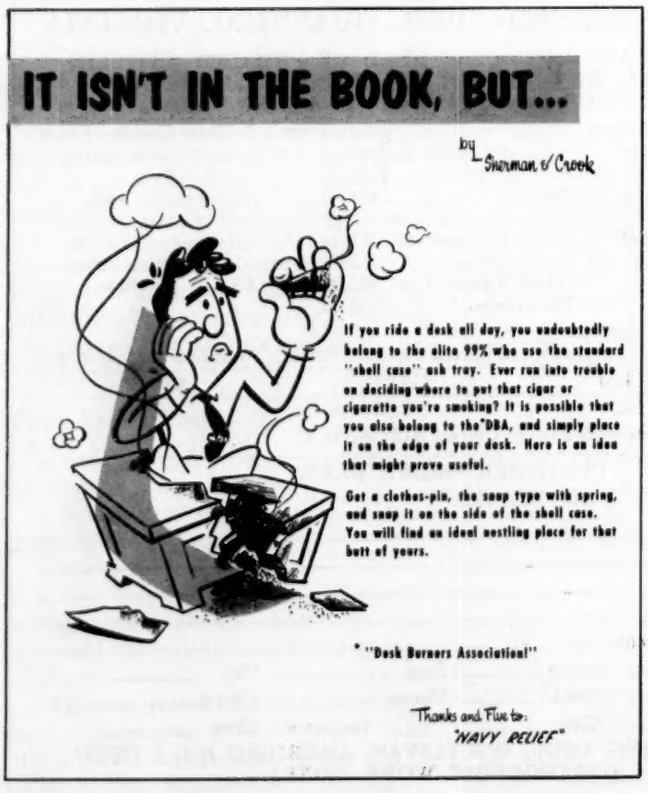
One of the most common Soviet land mines is known as the PMK-40. Employed in AT fields, ditches, and trails, it effectively causes injuries to personnel, and disables motorized or tracked vehicles.

Produced in either a cardboard or metal A. P. blast, it has a diameter of three inches, and is filled with 17 ozs of high explosive. A pressure of 20-40 pounds on the pressure lid will depress the hinged pressure pedal, which in turn releases the striker. The metal model requires only three pounds of pressure to create an explosion. Weighing only 3.2 ozs, the PMK-40 is considered extremely dangerous.



To neutralize, carefully lift mine. Avoid putting *any* pressure on lid. Next, slowly withdraw stopper at the mine's base, then remove percussion cap and detonator.

(Extracted from—4-30, 315-Army-Ft Belvoir, Va. Submitted by MSgt J. P. Driver, EODTC, Indian Head, Md)


IT ISN'T IN THE BOOK, BUT...
by Sherman & Crook
If you ride a desk all day, you undoubtedly belong to the elite 99% who use the standard "shell case" ash tray. Ever run into trouble on deciding where to put that cigar or cigarette you're smoking? It is possible that you also belong to the*DBA, and simply place it on the edge of your desk. Here is an idea that might prove useful.
Get a clothes-pin, the snap type with spring, and snap it on the side of the shell case. You will find an ideal nestling place for that butt of yours.
* "Desk Burners Association!"
Thanks and Five to:
"NAVY RELIEF"

New Books

THE COMPACT HISTORY OF THE CIVIL WAR, THE STORY OF THE WAR BETWEEN THE STATES. By Cols R. E. and T. N. Dupuy. *(Hawthorn Books, Inc., N. Y., $6.75)*

A compact history of the American Civil War. If you could read only one book on the subject, you'd do well to choose this one. It's an understandable condensation of four-years of war, in few words.

THE FLEET THAT HAD TO DIE. By R. Hough. *(Ballantine Books, N. Y., $.35)*

An entertaining account of the battle of Tsu Shima, when Russian and Japanese ships met in one of the most decisive naval battles of all time.

RUSSIA'S ROCKETS AND MISSILES. By A. Parry. *(Doubleday & Co., Inc., $4.50)*

A run-down on Russian efforts to master outer space. The author discusses the status of East-West rivalry in rocketry, Soviet military rockets and missiles, and space.

ON THERMONUCLEAR WAR. By Herman Kahn. *(Princeton University Press, $10.00)*

Based on the well known Kahn lectures given to military and civilian groups involved with planning, strategy, and thought on war in the modern world. A book every professional Marine should read.

Problem: Crossing the River

By Carl H. Strandberg

How would you select the best locations for a river crossing under combat conditions?

Assume that you are the Battalion Intelligence Officer of a unit which has been assigned an objective on the other side of a river which Intelligence Reports indicate is too deep to ford, through most of its course. Due to the critical nature of the objective, holding up at the river could jeopardize the entire operation.

To further complicate matters, little time is available. It is now 2100, and the attack is scheduled for 0600. You are in unfamiliar terrain, and the limited time precludes sending out a recon patrol.

Maps covering the area show no bridges or established fords.

To aid you in your planning, you have good topographic maps, and a recent set of large scale aerial photographs, which overlap, so that you can study the ground in three dimensions.

The things which you consider most important are, finding a place (or several places) where the water is shallow enough to wade, determining the steepness of the banks, and insuring that the bottom is firm. Knowing in advance whether the opposite bank will offer good traction, or become slippery, you also consider important.

But how do you determine these things?

First, the matter of water depth.

Except on large rivers, in well surveyed areas, water depth is rarely shown on maps. Your area doesn't meet these qualifications, and no water depths are indicated on the maps.

What about the aerial photography? How can you determine the depths of the water by examination of the photography?

There are many signs of water depth for which skilled photo interpreters search.

Sometimes, both the surface of the water and the bottom can be seen. When this can be done, depth of the water can be precisely measured by a skilled man, given time and proper instruments. But these advantages are not available to you.

What are some of the other signs which you can use?

Actually seeing the bottom is helpful, but depending on the clarity of the water, this alone may or may not enable optimum stream crossing site selection.

Plainly visible sand bars are sometimes helpful. These frequently appear as elongated triangles, pointing up stream. As a general rule, the lighter the tone, the closer their tops are to the surface. Water is usually shallowest closer to the downstream end.

White swirls and streaks in the water indicate rapids, which are usually quite shallow. The bottom is usually firm in them, also. The pool frequently found below them is often quite deep, but just below it, there may be a shallow stretch.

These areas are indicated on topographic maps by relatively close spacing of contour lines.

Steepness of the banks is quite easily estimated in stereo study of the photograph, with practice. A simple method is to compare the unknown height with the image of something whose height is known. That of a jeep, for instance.

Steepness of the banks is important for at least two reasons: steep banks are obviously difficult to climb, and slope also indicates soil type.

Discounting rocky banks, vertical and near-vertical banks, and "U" shaped gullies indicate clay soils. These, obviously, might be quite slippery.

Gentler slopes, approaching 45 degrees, and "V" shaped gullies indicate that sand and gravel predominates.

Firmness of the bottom can usually be deduced from the signs already described.

Other helpful indicators are abrupt changes in stream direction, signs of swift current, and rocky outcrops visible on one side of a stream, which can be picked up again on the other side. Even if no sign of them can be seen in the stream channel itself, the bottom is usually firm between them.

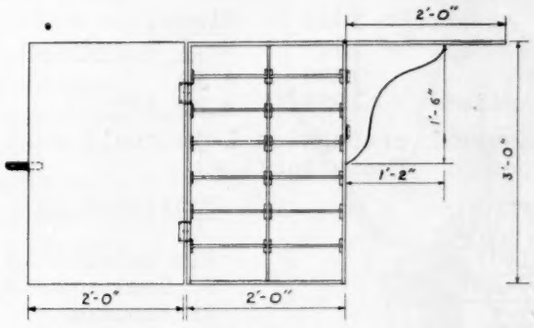
Another important general indicator of a good stream crossing location are foot or animal trails. These appear as thin lines on aerial photograph.

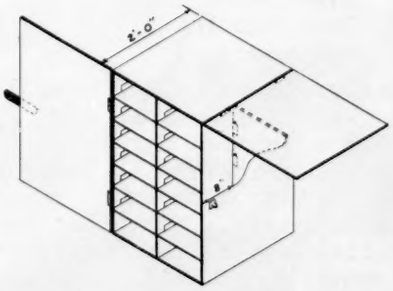
Nothing can take the place of practice in tactical terrain evaluation from aerial photography—and let's hope that you, as the "2" in this case, have learned your lessons well!!

10303 Haywood Dr.
Silver Spring, Md.

A Better Way . . .

Reaches the Field





TOP, SIDES, BOTTOM AND TOP BRACE 5/8" PLYWOOD
DOOR, BACK AND PARTITION 1/2" PLYWOOD
SHELVES 3/8" PLYWOOD
SHELF SPACING (CENTER TO CENTER) 5"
FROM TOP, 2, 4 & 6 SHELVES ARE REMOVABLE.
24" PIANO HINGE FOR TOP.
SMALL BOLT TO SECURE TOP & TOP BRACE WHEN CLOSED.
INDICATED HOLES SHOW METHOD OF SECURING.
TABLE BRACE FASTENS TOWARD REAR OF CABINET

1stLt G. D. Fassler, HqBn, 3dMarDiv sent these plans for a combination photo file and table to MCLFDC. Device offers these features: photos can be filed by sorting, file opens to provide 2 x 4-ft work table, is cheap, easy to make, protects photos. MCLFDC evaluated idea, found it worthy, routed it to the field.

ADMINISTRATIVE TIME

Being a few words by the editors about the magazine you write

MEMORANDUM

From: The Editors

To: Major General John A. Lejeune

Subj: Marine Corps Association

1. Wishing to note the Anniversary of the Association you founded 25 Apr 1913 at Guantanamo Bay, we have the honor to report as follows:

a. The Editor has been repaid the $621 advanced from his own pocket in 1926 and the Gazette has not since missed another issue.

b. Reserves are on hand sufficient to hope that we can now meet our printing bills on time. It should not be necessary in the near future to do as was done in 1927: namely, to reduce payment to contributors from $2 to $1 a page.

c. The Marine Corps Association has survived the demise of its brothers of the early 1900's: The Infantry, Coast Artillery and Field Artillery Associations.

2. At present there remain the following military associations which publish journals:

Association	Founded	Journal	Annual Dues	per yr.	Circulation (Sep 1960)
Naval Institute	1873	Proceedings	$4.00	12	54,000
Armor (ex-Cavalry)	1885	Armor	$4.75	6	.....
Navy League	1902	Navy	$2.50	12	.....
Marine Corps	1913	Gazette	$5.00	12	22,000
Leatherneck	1917	Leatherneck	$4.00	12	97,000
Ordnance	1919	Ordnance	$5.00	6	46,000
Am. Mil. Engrs	1920	Military Engr	$6.00	6	27,000
Quartermaster	1921	QM-Review	$7.50	6	12,000
Air Force	1940	Air Force	$6.00	12	70,000
Armed Forces Comm. & Electr.	1946	Signal	$5.00	12	11,000
National Guard	1947	Natl Guardsman	$2.00	12	83,000
U.S. Army	1959	Army	$5.00	12	70,000
Army Aviation	1953	Army Avn	$2.50	12	6,400

3. Several professional journals must now be published at government expense. These include:

Journal	Published by	Cost/Yr.	No. of Issues
Air University Quarterly Review	Air University	$2.00	4
Military Review	Ft Leavenworth	$3.50	12
Infantry	Ft Benning	$4.00	6
Artillery Trends	Ft Sill	$1.00	3-5
Army Quarterly	Great Britain	£2	4
Globe & Laurel	Royal Marines	£1	6
Canadian Army Review	Canadian Army	$2.00	4
Naval Avn News	BuWeps		12

2. Several military associations have formed local and national organizations. Others have not. The Marine Corps Association continues its main object: to provide a journal for professional Marines at minimum expense. Also, awards are given to honor graduates of officer and staff non-commissioned officer courses.

5. In summary, we have to report, Sir, that your Association like your Corps continues to follow the course you charted. The path has not been easy, nor would you want it so, but it leads upward.

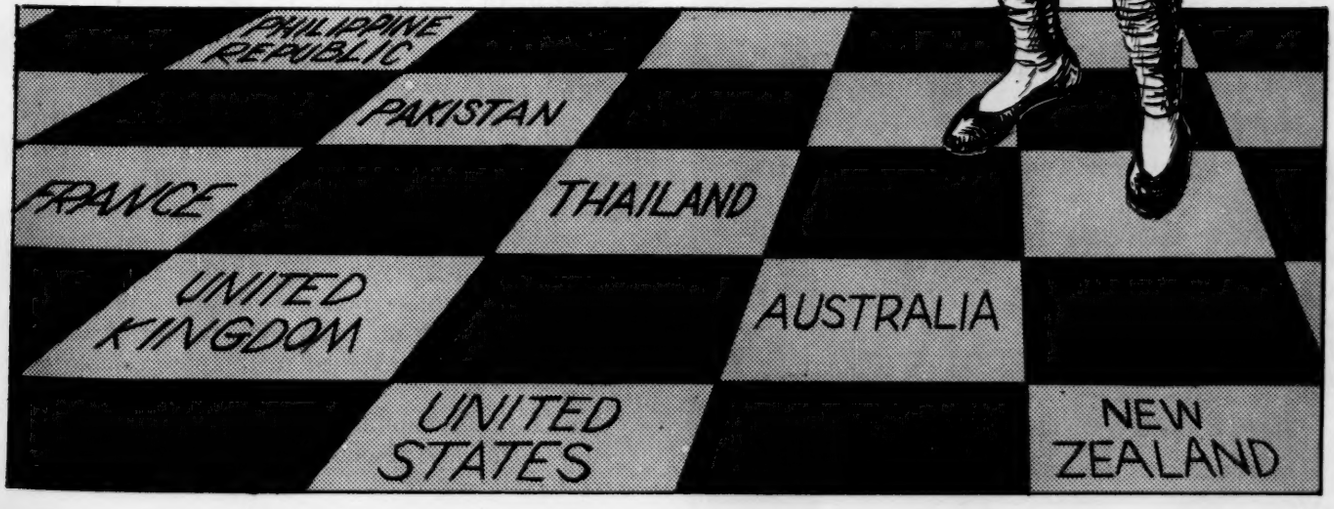
Very Respectfully,

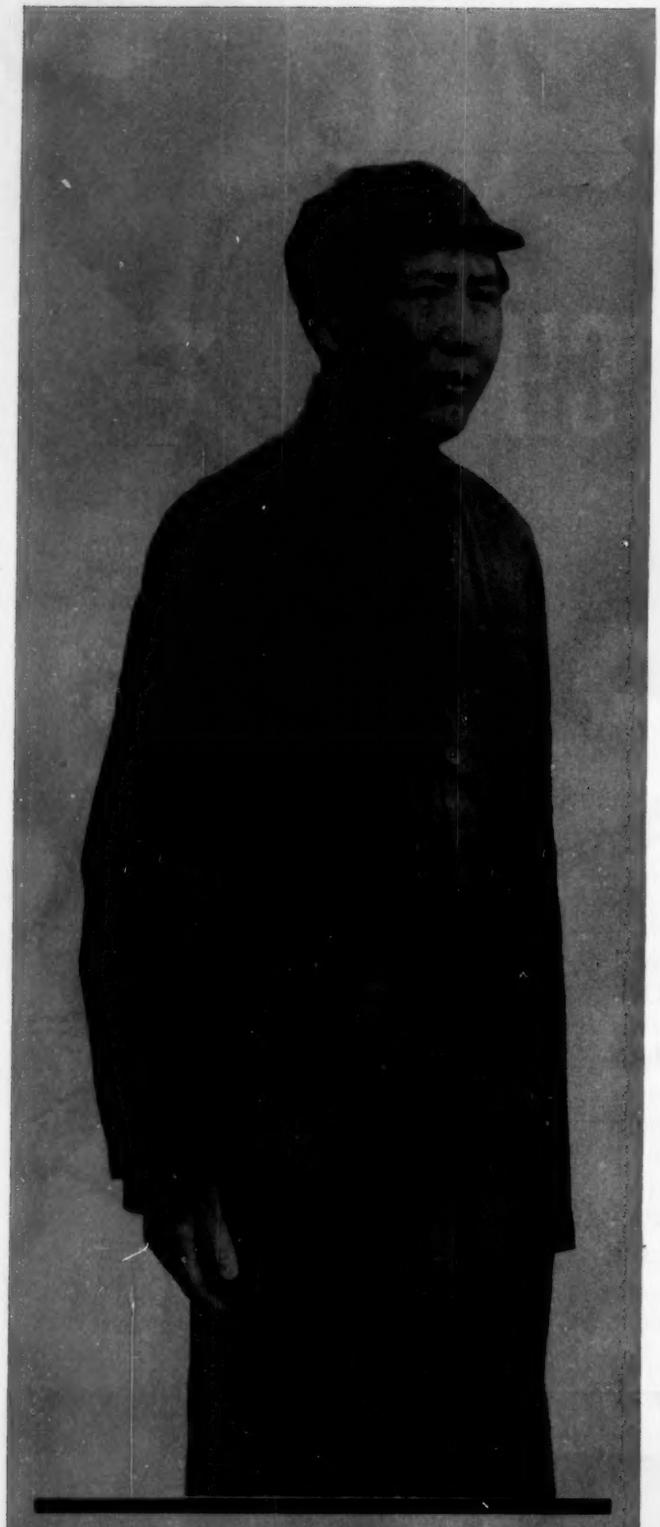
The Editors

SEATO and RED CHINA

This month's *Gazette* focuses on the SEATO area and the Red Chinese threat . . .

. . . Capt Conway Smith updates Red China's armed forces, improved since Korea. Behind those forces, Oriental thought. BGen S. B. Griffith summarizes his noted studies of the writings of Mao Tse-tung. If it comes to war, what's the place for nuclear weapons? Use them, says Gen F. H. Smith, USAF; avoid them says Maj Michael Spark, urging "unlimited war," limited to conventional weapons. On the tactical side, Southeast Asian jungles pose two problems: lack of visibility, limited helicopter lifting power. This issue presents possible solutions. And . . . Laos.





Since Korea, Mao Tse-tung has modernized and reorganized his Peoples Liberation Army. It's a force we've got to reckon with

RED CHINA'S MILITARY REVOLUTION

By Capt Conway J. Smith

BOUNDLESS MANPOWER, NEW MACHINES, AND COMBAT experience have given the People's Liberation Army a new profile. Its battle potential has increased and is vastly superior to that of the Korean war. Awareness of the nature and magnitude of this surging growth is a modern necessity.

In Korea, the People's Liberation Army (PLA) was committed to a kind of warfare which neither it nor the Communist regime had ever before experienced. The war was a great economic burden on the Peking government because the army was not able to operate in its old outmoded ways. It was an army in transition, evolving from a guerrilla-like force toward modern organizational concepts. Furthermore, the loss of men and the great toll on equipment was a severe blow. The war left Red China with a heavy debt, since the Soviet Union had carried much of the financial burden and the military machine had become greatly dependent on the Russians.

At the same time the war aided the development of the People's Liberation Army. A great stimulus was given to political and economic reorganization. This impetus included military policies. Soviet arms deliveries were quickened and technical assistance programs were started on a crash basis. Furthermore, the war provided invaluable experience in large-scale, modern warfare, since both the army high command and the fighting forces were exposed to complex combat conditions.

The Chinese Communist military leaders had already demonstrated their resourcefulness in the previous 23 years, during which they were continually engaged in

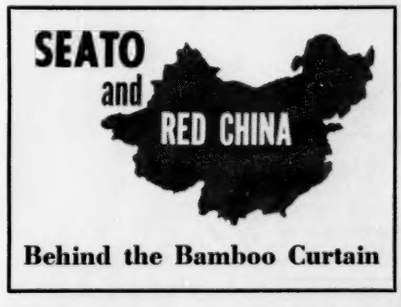
Wide World

fighting. But the Korean war saw them make fatal blunders in positional and offensive campaigns against first class troops of an up-to-date army. Their problems stemmed from inadequate control of huge forces, insufficient transportation equipment, and lack of communications. The war also exposed need for better staff functioning and procedures for employment of large units.

As the war came to a close, the Red regime began a thorough reorganization of its entire military establishment. Emphasis was placed on modern organization, training, and the acquisition of modern equipment. This military renaissance was one of the fastest arming processes in modern times. From an infantry-heavy army of illiterate peasants the Communist leaders made substantial gains against basic and complex obstacles, to produce the largest modern army in the world.

The interrelation of military and political functions in high Communist leadership is well-known. Few of Red China's military commanders have reached high positions without also being important Party members. Top civilian Party leaders, too, have been closely associated with military functions and many hold key positions in the country's supreme military organ. Political and military work have always been indivisible and the army has traditionally been considered the fighting branch of the Communist Party. From the top leadership down to the lowest military echelons, the military commanders have been held responsible for the troops' military conduct. Meanwhile, their civilian counterparts, the political commissars, have been responsible for the army's political integrity. These basic concepts have been retained.

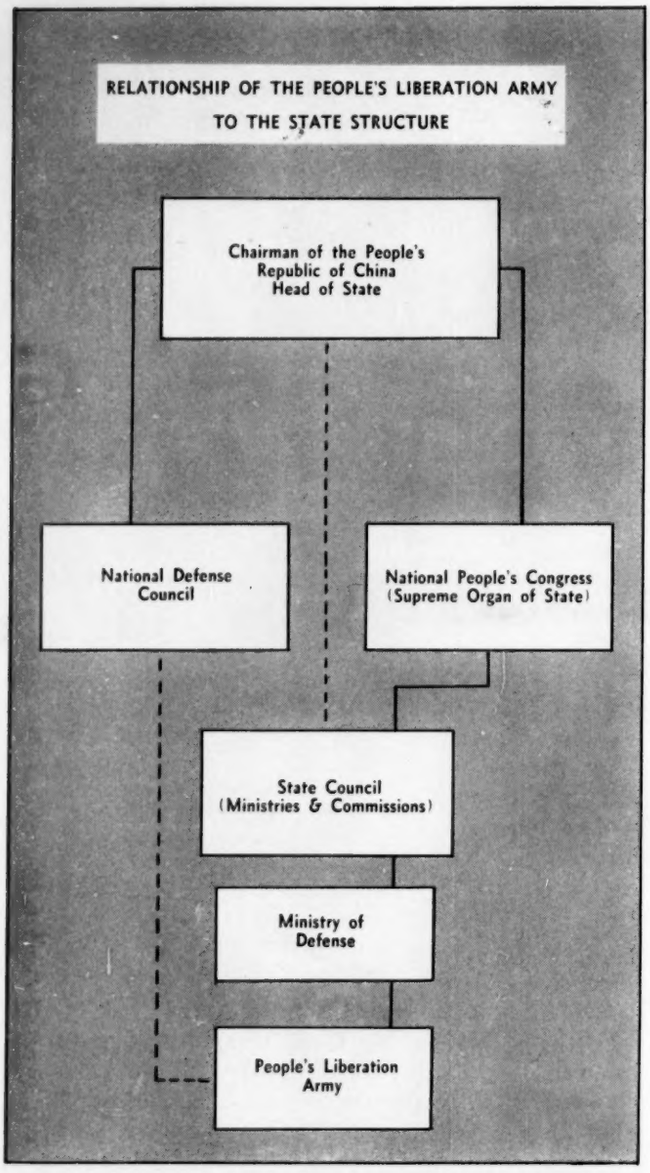
But an even closer relationship was necessary. On 8 February 1955, the National Defense Council (NDC), formerly the People's Revolutionary Military Council, became the central military organ of Communist China. Mao Tse-tung (head of the Party and the state) was appointed chairman at the same time, a fact which indicates the importance of this body. The NDC was established with cabinet status. Its leadership came from the ranks of the Communist Party. Chairman Mao's loyal supporters, Gens Chu Teh and P'eng Teh-huai, were appointed Vice-chairman and Minister of Defense, respectively.

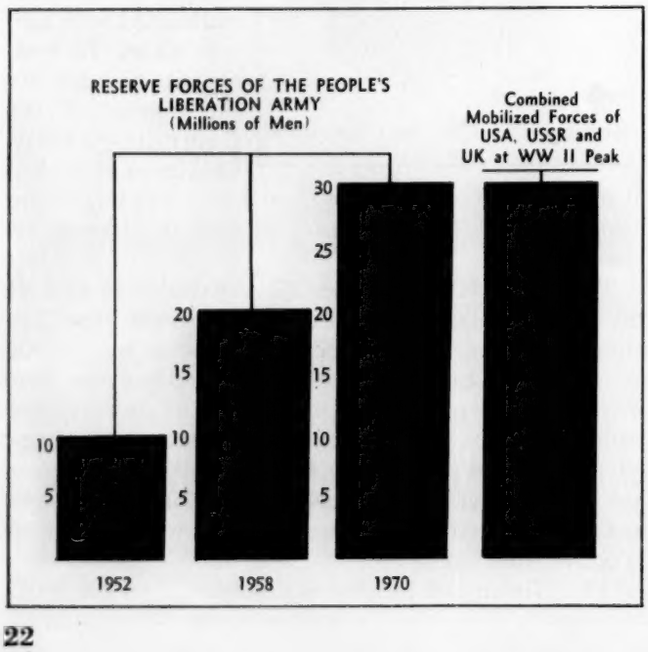


Behind the Bamboo Curtain

Today the NDC includes 15 vice-chairmen and 81 ordinary members in addition to Chairman Mao Tse-tung's position. All members are selected by the National Party Congress. Their designated purpose is to direct military policy and planning. The country's top military leaders are on the council to serve as strategic planners. This provides for a centralized command and prevents individual leaders from taking their own course and exercising undue influence within their respective commands.

The Ministry of Defense is subordinate to the NDC.


RELATIONSHIP OF THE PEOPLE'S LIBERATION ARMY
TO THE STATE STRUCTURE
Chairman of the People's Republic of China Head of State
National Defense Council
National People's Congress (Supreme Organ of State)
State Council (Ministries & Commissions)
Ministry of Defense
People's Liberation Army



The People's Liberation Army in turn is subordinate to the Defense Ministry. This arrangement has a unique feature. The NDC has army officer members and these officers therefore serve on a command level senior to the Minister of Defense. It appears that this peculiar organization was designed to prevent the Defense Minister from gaining too much power over the army.

The PLA has played an important part in the government's ambitious economic development program and therefore has an importance which extends beyond its purely military functions. In several instances the army has served as a well-disciplined labor force. Labor commitments have been both large and small. Gigantic construction projects like the mile-long bridge across the Yangtze River were accomplished with military labor forces. In addition, increased agricultural production has been accomplished to a great extent with troop labor. Thus many soldiers are engaged in food production and are, in effect, paying for their own weapons, since Red China's main export is food, which pays for its huge industrial expansion and arms program. Most of the great land reclamation projects of the ambitious five-year plans, railroad building, and industrial growth also have used military labor.

It can be assumed, of course, that the extended nonmilitary functions of the army have not been completely advantageous to the army itself. Loss in training time has undoubtedly resulted in a reduction of combat efficiency in some units. Whether these diversions produced gains which offset the loss has not yet been determined, nor is it clear whether the regime had a choice in the matter.

Regularization and Modernization

Traditionally the equality of men and leaders had always been stressed in the Red Army. But by 1955 this unrealistic, though somewhat democratic, concept was disregarded in favor of modern views of rank distinction. Newly promulgated orders brought the army closer to the Soviet model. Marshal rank was conferred by the head of state on several top generals. The state council was authorized to select generals, while the Ministry of Defense was empowered to select field grade officers. Field commanders were permitted to choose their own company grade officers. And as in most governments, the head of state was installed as supreme commander.

The general structure of the army was divided into seven departments, each with a chief of staff or director: (1) General Staff; (2) General Training Department; (3) General Political Department; (4) General Cadres Department; (5) Armed Forces Supervision Department; (6) General Rear Services Department; and (7) Finance Department.

Military units subordinate to the large departments were divided into five field armies which were later redesignated as military districts and expanded to eight instead of five. The operational forces were reorganized so that the army consisted of more than 150 infantry divisions numbering over 18,000 men each. In support of this large force were three parachute divisions, three armored divisions, and not less than 20 artillery divisions. In addition, there were anti-aircraft, anti-

tank, railway, and engineer divisions. The authorized minimum strength of the peacetime army was placed at 2,500,000 active troops.

The Military Service Law

Military conscription laws conceived in 1954 were the basis for the Military Service Law of 1955. This law provides Red China with a large standing army and a massive, well-trained reserve force. Basically, the law calls for an annual yield of a half-million draftees. (In contrast, the US drafted only two million men between 1948 and 1955).

In 1958 the first three-year draftees were released to the active reserve forces. Those drafted into the air force had to serve four years, while those taken into the navy were obligated for five years. These long terms and continued training in the active reserves are significant. Selectivity has improved the quality of the soldier and a planned yield of recruits has enabled the army to modernize rapidly and efficiently. But most sobering is the staggering size of the reserve force. Presently it is thought to be 20,000,000 men. The Communist goal is five percent of the population. Thus a force of more than 30,000,000 men may be available. This figure is roughly equal to the combined, peak mobilization strength of the US, the Soviet Union, and Great Britain during WWII. Since Red China holds one-fourth of the earth's population, it enjoys a gigantic margin in manpower.

The Reserve Forces

The importance of the reserve forces stems from their many functions. They have been an important auxillary to the regular forces in consolidating power in China and as a principle reserve of manpower.

Generally, the reserves are organized into special units where the population is dense, into non-specialized units in sparsely populated rural areas. In each case the reserve units are designed to be self-sustaining since the members are engaged in their regular vocations. In this manner the regime has tried to create the idea that the reserve soldiers are protecting their own possessions and therefore must support themselves.

Politically reliable leaders are appointed to direct the reserve forces. Each level of command has an appointed chairman and a council, and each level of command is under the constant surveillance of superior commands at least two echelons higher.

Higher levels in the reserve are under control of the regular army, which has special departments for dealing with reserve affairs. The organizational structure of the reserve and its close supervision by the regular army was designed to prevent non-conformity and individualism. It is virtually impossible for an individual to deviate from his orders.

In summary, then, the reserves are a source of well-trained manpower, and have become an effective security force throughout Red China.

Training the Operational Forces

In accordance with modernization plans, progress has been made in formal education and training for regular warfare. Previously, due to a high illiteracy rate,

Wide World

Red Chinese soldier—Half a million draftees a year, a staggering reserve force of 20 million

military training was limited to field demonstrations, lectures, and various visual teaching methods. Because of lack of equipment and limited knowledge of modern warfare, military and political indoctrinations were the main subjects.

Again, the Korean war accelerated modern training concepts and Soviet influence helped establish formal training in the People's Liberation Army. But problems with the Chinese peasantry plagued the ambitious educational program. Illiteracy, differences in dialects, and general lack of education precluded a rapid growth in formal military education. By 1958, however, significant progress had been made toward establishment of military schools.

Within five years after the Korean armistice, the People's Liberation Army developed combat and service schools, staff colleges, and administrative schools. This was taken as a step toward modernization, and a move away from strictly primary educational instruction. In addition to these training functions, outstanding officers were sent to the Soviet Union for advanced courses.

Formal schooling became the responsibility of the branch schools—that is, each branch of the army maintained its own special school. After undergoing basic indoctrination within the unit, the first students were promptly enrolled in the branch school for formal instruction. This system was designed to standardize military training and hold it under close supervision.

The PLA Academy in Nanking was formed to provide advanced military-political studies. Only high ranking officers, who would naturally be career soldiers of reliable political integrity, were assigned to this elite school. The academy staff consisted not only of ranking officers and civilians but many Soviet advisers as well. It was established as the highest educational institution in military training, and the final step before post-graduate work in Russia.

The Impact of Soviet Aid

The Soviet Union has made modernization of the People's Liberation Army possible. Aid given to the Chinese Communist forces has greatly improved their capabilities and fighting potential. Standard divisions five years after the Korean truce have become tremendously more powerful than those used in the war. Increased technical assistance, military advisory assistance, and modern equipment have brought the army up to western military standards.

One authority on Red China observes that Soviet advisory assistance reaches every level of command. No regiment of infantry has less than one Russian adviser, while most of the technical services have advisers down to the squad level. Another source claims that as many as 250,000 Soviet advisers were in China after the Korean war. Their salaries were said to be ten times those of Chinese generals.

Soviet equipment has made it possible for the Chinese Communists to build an air force, a navy, and a Marine-type amphibious force. These forces have been supplied from the beginning with Soviet weapons and give the Chinese the nucleus for a well-balanced military force.

One American Army officer, a competent authority on the People's Liberation Army, has cited interesting aspects of Soviet aid to Red China. He says the Soviet Union provided only controlled aid during Korea—that is, they gave only those items which the Chinese could put to maximum use. Tanks, for example, were given to the Chinese in restricted numbers since they couldn't maintain them in larger quantities, and weren't familiar with armor doctrine. If this observation is correct, the large numbers of tanks, planes, and ships given to China in recent years indicates a growing capability for use and maintenance of these items.

Some Weak Spots

A former military attache at the Chinese Nationalist Embassy in Washington, who has observed the growth of Red China's army with care, describes both its strength and weakness. He cites, for example, the lack of modern engineer equipment and know-how and says Soviet guidance has been necessary to make possible most of the engineering triumphs such as bridging the Yangtze. This observer also points to the primitive communication system in China and alleges that the lack of adequate signal capabilities is the weakest single aspect of the army. He also calls attention to the fact that the low literacy of the average soldier constitutes a tremendous problem in terms of teaching them technical skills.

Atomic weapons have probably been withheld from the People's Liberation Army by the Soviets. However, the Chinese Communists no doubt are eager to develop their atomic potential in all its applications. Chen I, the present Foreign Minister, has warned that Communist China may obtain nuclear weapons if the US puts them in other countries of the Far East.

According to newly published works on Red China, the development of atomic energy for military use seems to be a remote possibility. Recently, however, there has been speculation that Moscow has put a number of atomic bombs in Peking's custody, and that atomic testing is being carried out in Sinkiang Province. It is known that Red China has at least one atomic reactor. There have been official announcements from Peking which admit the existence of 15 atomic research laboratories in Peking alone and 21 elsewhere in China. There is growing belief that Peking has embarked on the steps preliminary to production of atomic weapons.

Poor morale has never been a problem in the Chinese Communist Army. There has always been a good reason for their high and buoyant esprit: aggressiveness and success.

Many observers claim that political indoctrination accounts for the "gung ho" spirit of the Red soldier. His ability to withstand physical hardship and privation and his philosophical realism toward death have been helpful in making him a good soldier. He has thus

been able to neutralize many of the effects of modern war which have been so disrupting to the average "western mind." When given the opportunity, the Chinese soldier displays unusual intelligence, readily absorbs instruction, and shows resourcefulness and initiative.

Much of the Chinese Communist success in building an aggressive spirit stems from instilled hate. Many have told of the great uplift in morale accomplished by Red propagandists who fire the troops to a frenzy of hatred. The effectiveness of this stimulant is sobering when the experience of Pierre Mendes-France, former French Premier, is noted. Not until he visited China, he claims, did he ever feel the hostility of a whole people. He had previously felt the enmity of foreign leaders, but never the masses of a country. Communist propaganda, in this application, has been effective.

Political and military functions, indivisible in the Communist army, are complementary in developing the Red soldier. The very structure of the army is instrumental in convincing and motivating the men. The military commander has responsibility for operations, intelligence, logistics and administration. But the political commissar provides the guidance for political training, education, welfare, morale, and discipline.

Red Soldier Has Status

Morale is generally high because the soldier in Red China has favorable social status. Traditionally, the military men in China has been at the bottom rung on the social ladder. An old Chinese proverb goes, "As you would not use good iron to make a nail, so you would not use a good man to make a soldier." This attitude no longer prevails. The soldier is looked upon as a crusader or the representation of revolutionary spirit. The Red soldier has material and spiritual fulfillment to a great extent. He has personal recognition. The soldier in Red China eats well, too, and is constantly reminded of this as he gazes on the hungry, nearly-starved population which supports him.

But certain deficiencies which tend to depress morale have been reported. Examples of inequalities, discrimination, and partiality have been cited as sources of local discontent. Promotions, military justice, and assignments allegedly have been dependent on rank and party affiliation.

Morale, whether it is artificial or not, is high. It remains so because the Red Army is in a constant state of war. Should it find itself in a protracted period of peace, its battle-hardened veterans would be displaced by recruits. The new blood would have no basis for accepting the hardships of military life. There would be no crusade or revolutionary spirit, and high morale would depend on the successes of indoctrination and agitation. Only time will tell whether combat spirit can be replaced with political fanaticism.

Since the Korean war, the Chinese Communist navy has made great progress in development from a tiny nucleus. In a relatively short time it has become the largest navy of any Asian nation and has increased its capabilities tremendously.

The most significant addition to Red China's naval development is the large number of submarines acquired from the Soviet Union. Red China now has the world's fourth largest submarine fleet, capable of blockading the offshore islands and extending its activities far beyond the coastal areas. Furthermore, a top American commander in the Pacific reported in April 1958 that Communist China had been building its own submarines for two years in Shanghai shipyards. Today, Red China operates no fewer than 20 fleet submarines in the Pacific. This force represents one submarine for every five the Soviet Union has in the Pacific.

Recognition of the role of sea power in the conduct of war has been obvious in Red China's military growth. A great percentage of Soviet aid has gone into building a strong naval force, and the Chinese Communist navy has been greatly influenced by its Soviet counterpart. By 1958, the navy had grown strong enough to deal with any but the major sea powers and was even then capable of carrying out more than nuisance raids. Though it lacks capital ships, the Red China navy is strong in torpedo boats and is gaining in heavier types of combat ships. The new navy also has more than 400 aircraft, most of which are modern jets.

Red China's navy had by 1958 developed an amphibious attack force of well-trained, highly disciplined marines. Though it has never been made clear that a marine corps exists in name, it is a fact that a large naval landing force is available.

At one time there was reportedly a marine establishment commanded by the chief of the navy. The first commander, it is said, selected the best soldiers of the People's Liberation Army for the core of four marine divisions. In addition to these divisions, ten separate brigades were formed at Port Arthur, Amoy, Kulotao Island, Yinkauo, Hungchow, WhangPou, Haikow, and Yulin.

The Red "marines" were equipped with Russian armaments by 1950 and by 1952 were reorganized along Soviet quadrangular lines. There has been no indica-

Capt Smith obtained a commission in the Army via ROTC at Michigan State Univ, and was trained at the Armor Br, Ft Knox. Requesting transfer to the Corps, Oct '52, he served with an engineer unit and later at Intelligence School. From '55-'56 he was a photo interpreter with G-2, 3dMarDiv, and then with Office of Naval Intelligence, Foreign Br, until '59. Research on history and political science, his hobby, led Capt Smith to believe that "too few people are aware of red China's military progress." He is presently serving as CO, D Co, 8thEngBn, ForTrps, CamLej.

Wide World

PLA Marines—Next to USMC, Red China's amphibious forces are the world's largest

tion that Chinese Communist amphibious troops have organic artillery, tanks, or aircraft. In 1953, three more divisions were added to the original four and two amphibious landing vehicle regiments were activated. The total strength of the amphibious corps exceeded 140,000 men. Should this amphibious force be designated as a separate service, it would be the second largest marine corps in the world, topped only by the US Marine Corps.

Naval construction during 1955 was carried out under the planning and supervision of Soviet advisers. Swatow harbor was converted into a deep-water harbor. Twamkong, the southernmost harbor in China, was improved to acceptable naval standards. In addition, naval supply stations were built at Hainan, Swatow, and Foochow to support off-shore island defenses. Significantly, Soviet technicians and specialists have speeded up construction of submarine facilities at Taichen and at several other points along the coast of Red China.

In addition to growing naval strength, the People's Liberation Army has acquired considerable air support. Red China's air force, by 1955, was the world's fourth largest. Although only a fraction of the size of its Western counterparts, it has become a modern, capable, and potent military arm.

Like the Red Chinese navy, the air force virtually appeared over night, thanks to its Soviet sponsor. And like the navy, also, it is extremely dependent upon the Soviet Union for its existence, although Chinese-made planes have taken their place alongside Russian-made craft. Presently, Red China produces 20 MIG fighters each month.

The Chinese air force has grown to nearly 3,000 first-line jet fighters, including MIG-17 and MIG-19 types. In addition to this, more than 700 conventional type aircraft have been included. Twin jet bombers have been delivered to China from Russia, and are already operational. The Reds claim they are now building many of their own jet bombers as well as fighters.

Of additional interest and military significance is the rapid development of helicopter-borne assault techniques. The People's Liberation Army has been using limited numbers of modern Soviet HOUND helicopters in practicing vertical assault.

Airfield construction, too, has been extensive since the Korean war. During 1955 alone, seven jet airfields and seven other major fields were completed through joint efforts of Red China and the Soviet Union. These were all built in strategically located areas—some close to Indo-China, others near the Formosa Straits, and still others near industrial complexes. It is also interesting to note that most of the Chinese Communist airfields are designed and equipped to be self-sufficient from two to four weeks in the event of war, and that nearly all of them are served by more than one mode of transportation.

The Red air force is not large enough to handle both long range air missions and close ground support missions in case of an all-out war. It has not placed top priority on close ground support, but more emphasis is expected as additional planes and pilots become available.

Military Relations, With Other Countries

Significant military relations with foreign countries have taken place since the Korean war. The foreign programs of the People's Liberation Army have been in keeping with the accelerated activities of Communist China as a government.

After the withdrawal of Soviet troops from Port Arthur, where a strong naval base had been established, the Red Chinese acquired a new bastion. This transfer, in May 1955, had been agreed upon 14 February 1950 in a treaty of mutual friendship and aid. Port Arthur had been held by the Soviet Union since the end of WWII, when it was acquired through the Yalta Treaty. Darien also was turned over to the Chinese Communists but the actual transfer of both bases was postponed until after the Korean conflict. During the Korean war, Soviet troops occupied both bases, releasing Chinese soldiers for Korean service.

While Darien and Port Arthur were given to China,

several Chinese ports were turned over to the Soviet Union to be used as submarine bases. Hulutao, near Port Arthur, Hsiangshan, on the East China Sea, and Yulin, on Hainan Island, were placed (temporarily at least) under Soviet operational control and developed into major submarine bases.

From Korea, six divisions of Chinese "volunteers" began to withdraw in the spring of 1955. By fall, 12 divisions were recalled from the 900,000-man force left in Korea after the war. In 1958, there were 350,000 troops left in Korea as the final stages of the withdrawal began. During March and April of 1958, more than 100,000 men left Korea for China. The remaining forces were to be depleted by late summer. This was done only after the North Korean forces were fully established.

Red Chinese military leaders have shown their readiness to send troops to many parts of the world for military action. Since Korea, they have offered to send soldiers and equipment into Indonesia, Egypt, and Iraq. Evidence of military aid from Red China has been found in Indo-China where both Chinese and Soviet equipment were used. Furthermore, it has been reported that more than 2,000 Chinese Communist officers served on the staffs of Ho Chi-minh as he conquered Indo-China. In Malaya, the so-called Malayan Liberation Army is known to have received supplies from the Red Chinese. And in Yunnan province in south China, a so-called Free Thai Army, equipped and trained by the People's Liberation Army, has been waiting to exploit any internal disturbance in Thailand. Also, recent military activity in Laos reflects Red Chinese influence in many respects. We have also seen Red China's foreign policy projected with military force along the Indian frontier.

Military Activities in the Taiwan Straits

During the years following the Korean war, Chinese Communist activities in the Taiwan Straits passed from a period of psychological warfare to a period of active military aggression. While they massed their forces and staged a huge military build-up, a continuous barrage of propaganda diverted world attention. Finally, by 1955, they actively engaged in the seizure of off-shore islands. Yikianyshan, Yushan, and Pishan were seized while Tachen and Nanchishan were occupied following evacuation by Nationalist forces.

The intensity of military activities quickened in 1958, when the People's Liberation Army began a prolonged bombardment of Quemoy in advance of the announced invasion of the island. The move came, suspiciously, at a time when American forces were active in Lebanon. On the mainland opposite Quemoy, considerable air and ground forces were massed—more than 500,000 men and perhaps one-third of the air force.

The situation during the summer of 1958 had tactical as well as international military significance. On 23 August 1958, when the artillery assault began, the Reds fired more than 40,000 rounds at the tiny island within two hours. In the 15 days following, their shore batteries lobbed 200,000 rounds on Nationalist-held outposts. Chiang Kai-shek's headquarters claimed Quemoy ultimately endured more high explosives than the Japanese fired in China between 1937 and the close of WWII. This showed not only a tremendous artillery capability, but a pronounced increase in firepower since the Korean war.

Should the offshore island dispute become more serious, the Chinese Communists are capable of using ballistic missiles. Since the summer of 1958, a number of these weapons have been installed opposite Quemoy. The next outbreak may see Red China enter a full-scale modern war which would reveal their complete arsenal.

Conclusion

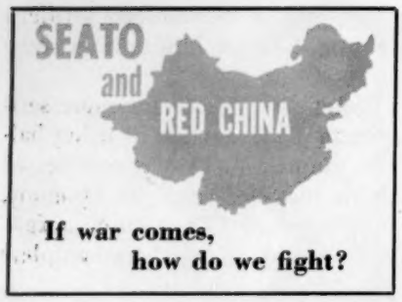
Compared to the armed rabble of the Korean war, the evolution of the People's Liberation Army provides an index to the growing military threat which Red China presents today.

This potent force may be felt in open war. If it is met in battle, it will probably act as it has in the past—resolute, aggressive, and indifferent to losses. But the People's Liberation Army will better exploit its boundless manpower, because new machines and knowledge of modern warfare have given it a new profile. The PLA's battle potential is immeasurably superior to that of the Korean war and can be expected to improve further under the guidance of its determined leaders and its Soviet sponsors.

If Red China's military might is not committed to open war, its weight may be applied as a diplomatic lever to aid Red China and the Soviet Union in their negotiating capacity at the conference table. By exerting pressure on little countries in the Far East, the People's Liberation Army can divert attention from European problems, disrupting the balance of bargaining power in favor of the Communist bloc. We have seen this happen in recent times. For example, the critical situation in Lebanon during the summer of 1958 was further complicated by a threatened invasion of Quemoy and a massive artillery bombardment. Again in 1959, Red China sent troops into Tibet (some spilling over into Nepal) just before discussions on Berlin were to begin. This form of intimidation, diversion, and diplomatic blackmail may become the primary tool in the spectrum of Communist intrigue as they continue their struggle for world domination.

Too many of us are prone to evaluate Red China in terms of her failures and shortcomings. We are prone to search for intellectual aspirins—"Red China is a paper tiger" . . . "the Sino-Soviet bond is weakening" . . . "Red China carries the seed of her own destruction and will soon collapse under her own weight." These are all second guesses or wishful thinking, generally without factual support. The military events of the past few years have shown such thinking to be dangerous and careless. The one fact about Red China of which we can be certain is that the People's Liberation Army will continue to develop rapidly at any cost and will become a more serious threat as time passes. With that in mind, it may be well for us to consider a statement attributed to Gen Lin Piao in 1937 concerning the Japanese:

"The enemy's greatest weakness was the arrogance which led him to underestimate the quality of Chinese Communist will to resist." USAMC



UNLIMITED WAR:
A Non-Nuclear Strategy

Tactical atomics are impractical, says Marine Maj Sparks. Not only practical but indispensable, says AF Gen F. H. Smith on Page 32. Who's right? Read on—and draw your own conclusions.

By Maj Michael Spark

TO BE ARMED WITH NUCLEAR WEAPONS ALONE IS TO be defenseless. In the words of former President Eisenhower, "In a nuclear war there can be no victors, only losers . . . general nuclear war will bring catastrophe to both sides." Simply stated, planning based primarily on the use of atomics invites national disaster. Many Americans find this fact difficult to accept.

Following WWII, atomic superiority replaced geographic distance as the cornerstone of our strategy. Now that superiority is gone. Further reliance on it can be the gravestone of our nation. When we had a decisive advantage, nuclear deterrence was the easy way out for soldier and civilian alike. The theory of the "big bang" or "no bang" permitted a now intolerable evasion of our strategic responsibilities.

What is our situation today? If attacked with atomics we must reply in kind. But what is our answer to non-atomic attack?

Our strategy will lose touch with reality if it doesn't adjust to the fact that weapons held equally by both sides can be decisive for neither. Our lost atomic advantage was formerly so comforting to us that we seem unable to comprehend the strategic import of its passing. We continue to run hither and yon, from one super nuclear weapon to the next, looking for a philosopher's stone that will turn the brass of mutual deterrence back into the gold of a one-way capability.

At the same time we fail to see the advantages we still possess. The West is supreme at sea and is still stronger than the Soviet bloc economically. These tools of power are the key to regaining our strategic initiative. Why do we neglect them?

To understand, we must examine the history of massive retaliation. After WWII, the really great surviving powers were the United States and Russia. Both had powerful armies; possibly Russia's was larger. We had unchallenged air and naval superiority. A still strong Great Britain was our close ally. Lastly, we had the first atom bombs and, in the B-29 bomber, we had a means to deliver them. In armed strength we were greatest.

Expediency and moral weakness robbed us of this position. Public clamor for demobilization inspired the break-up of our army. For purely political considerations, a strategy which did not require major national effort had to be developed. In attack against Soviet cities with atomic bombs, a strategy of minimum sacrifice was found. Massive retaliation was born.

As a strategy it stood on two legs—one fact, the other theory. The fact was that because of our rapid demobilization the Red Army quickly became supreme. The theory was that we would continue to enjoy a permanent advantage delivering nuclear weapons.

For a time, the strategy worked. Western Europe remained free. So long as the Soviets lacked the ability to strike back in force, we were safe from major war.

Events, however, found us unprepared for "small wars" and subversion. Greece, Malaya, and Indo-China experienced Communist-supported conflict. We could not use our atomic strength to control this new type of aggression.

Then came the shock of Korea., We had nuclear weapons but were unprepared otherwise. In 1950, five years after the first atom bomb, we fought a war without it. At that very time, the Soviets were rushing their own nuclear development. With the growth of their stockpiles, the theoretical foundation of massive retaliation—the illusion of our permanent atomic superiority —began to crumble.

As these events unfolded, the theory of limited war developed. First brought to broad public notice in separate books by Henry Kissinger and Robert Osgood, the new theory rationalized massive retaliation with the facts of the middle 1950's. Both authors observed that the Russian capability to strike us was continuing to grow. As it did grow, a state of mutual deterrence set in. Osgood held that, in light of this fact, the probability of small-scale conflicts increased and that of a major war correspondingly receded.

Now the situation has again changed. Both sides today probably have an atomic overkill capability. ICBM's lend speed and certainty to nuclear attack. To answer any ground thrust with strategic bombing has become a tactic of utter desperation. No non-atomic provocation is worth our own nuclear destruction. Mutual deterrence has buried massive retaliation.

Certainly we still need long-range atomic weapons. They function as armor on a battleship. As defensive weapons, deterring a Soviet try for nuclear knockout, they are an essential part of balanced forces. *Unused,* they permit us to develop our other capabilities. Once used, they have failed.

Recent technical developments have robbed even surprise attack of strategic value. ICBM's can now be detected in flight and the alarm given. Little warning time is needed to launch an atom-tipped missile reply. Should warning fail, the mobility, concealment, and hardening of the other side's striking forces make effective retaliation a certainty. There is no gain in surviving your opponent by 20 minutes.

Defense against nuclear missile attack appears infeasible. Atomics are not the "ultimate weapon," but they are a "finite" weapon. That is to say, it takes just so many megatons to destroy a nation. The potential atomic yield packaged in missile warheads increases every day. As it does, the attacker's delivery and accuracy requirements drop while the defender's problems multiply. However good mechanically, no missile defense system conceivable today can really succeed. To stop ten missiles, perhaps; to stop ten thousand, never.

If strategic atomics cannot continue to redress a military imbalance, what about the tactical use of atomic weapons? There is some reason, at least, to hope that tactical atomics would not trigger a world wide exchange. Unfortunately, here again parity confounds us.

The first user would certainly gain some tactical ad-

Wide World

Communist Chinese Premier Chou En-Lai (hands in pockets) and top military commanders in the field. They don't "appear to fear an atomic war and in some circumstances might welcome one."

Maj Sparks got his commission in the Marine Corps and a BA in history at Dartmouth through the V-12 program. Among other things in his 17 years as a Marine, he has been seagoing, was wounded three days before Christmas in 1951 while he was a platoon leader with the 5th Marines and he was graduated from the Naval War College in 1958. He is now ExO, Marine Corps Institute, having gone there from his previous job as S-3 of the 9th Marines. He says, "I felt this article was something I wanted to say."

vantages. Surprise and some local success would be his. He would also, however, receive a quick counter blow and the hatred of much of mankind. For us, there are other factors to consider:

- The West, with smaller forces, can least afford the accelerated casualties of the atomic battlefield.
- In Eurasia we depend on easily-bombed ports and bases.
- Since the West will fight only if attacked, the atomic battlefield would be on friendly soil.

On balance, we are the losers if atomics are used tactically. If we are hit first, so be it. Then we should reply. To initiate their employment, however, would be serious error. Like their ICBM big brothers, tactical atomics pay off only when the enemy cannot answer in kind. They cannot cure a weakness in non-atomic strength.

Our big problem today is how to win a war without using nuclear weapons. We have two powerful potential adversaries, Russia and China. Of the two, China is currently the more aggressive. First, then, consider her.

Nukes a Bad Gamble

A waking colossus, China shakes all Asia. She does not appear to fear an atomic war and in some circumstances might welcome one. Her huge population provides the basis for a large army. Industrializing rapidly, China still remains on the brink of famine. A marginal food supply and an overburdened transport system are her great weaknesses.

Against China, resistance at the point of attack may not suffice. Wherever possible, a vigorous ground defense is of course necessary, but in some areas we are severely limited. We could not have given Tibet substantial support. To reach Afghanistan, Nepal, and Bhutan, neutral India must be crossed. Burma, Laos, and India herself are threatened deep inland along their northern borders. Only in Viet Nam and Korea would the front be near the sea. China can strike where we cannot field large armies.

Deployment and resupply of air units would also be difficult. More significant, an air effort restricted to the area invaded cannot succeed. Under optimum conditions in Korea, aircraft were unable to isolate the battlefield. Even permitted targets in China herself, it is doubtful that non-nuclear strikes could stop the movement of a Chinese army.

Unfortunately, atomic attack against China seems the worst kind of gamble. While it is doubtful that China has atomics today, Russia could not and would not deny her the means to reply. Such an exchange with China would mean that:

(1) Our few Far Eastern bases would be destroyed.

(2) We would suffer heavy personnel and material losses from Chinese attacks.

(3) The nations we were trying to defend would suffer terrible destruction.

(4) We would face unprecedented world hostility and the possible collapse of our system of alliances.

(5) An undamaged Soviet Union would watch from the side-lines and would reap immeasurable military and diplomatic advantages.

Another more realistic way to counter Chinese aggression appears open to us. We could make China's weaknesses our target, striking with our sea and air power at her critical food and transport. Intensive mining, general blockade, and non-atomic strikes against her irrigation and flood control projects can shake the very foundations of the Chinese regime's existence. An inexorable campaign of economic attrition will gradually paralyze her.

Attack the Food Supply

Mines, air strikes, and naval units can destroy China's fishing fleets. Lacking meat, China depends on the sea for much of her protein needs. At the same time this food source is eliminated, conventional attacks against dams and canals can disrupt the water supply of her rice fields. China does not have the surplusses to long tolerate a two-pronged attack on her food supply.

Food aside, China's ability to move goods of any kind can be greatly hampered. Her considerable waterborne coastal trade is completely vulnerable.

Even more important is China's river commerce. Without her rivers China is a nation with a broken back. Her primitive transport system depends on them. We cannot hope to close them all, but means exist to greatly restrict their use. Attack aircraft and air-laid mines can be employed as far inland as water flows. With these weapons we can give unheard of depth to a blockade.

Tremendously successful in the last great war, the influence mine is today's forgotten weapon. Magnetic, accoustic, and pressure varieties can all be laid by air. Relatively cheap, they can be built to fit the size of their target. Even Germany found them virtually impossible to sweep.

Against these tactics China cannot mount a similar response. With them we can shift the battlefield to China herself. Once this is done, we can take from her any possible profit from aggression.

Probably less likely now than a Chinese attack, but far more dangerous, would be aggression by the Soviet Union. Miscalculation or design may yet start her marching. Russia can strike directly at either Europe or the Middle East.

The greatest prize of all would be Western Europe.

Loss of Europe would be disastrous for us. Without our NATO allies we would become an island in a hostile sea. Europe is the key to Communist world domination.

Consider the Soviet position should she decide to destroy the NATO powers. If our atomic forces are ready she is unlikely to seal her own fate by trying nuclear blows. Once completely confident of her own atomic capabilities, however, she will feel free to attack with any other means at any target.

Our old policies will only encourage such a Russian move. Defenseless against missile attack, the European powers know their fate is sure in a nuclear exchange. As long as massive retaliation is our strategy, these thickly-populated, highly-industrialized nations must avoid war at any price. The weakness of their ground forces today testifies to a feeling of futility. The nations that raised 300 divisions in WWII can't field 30 now.

Europe's capacity for her own defense will never be realized until our strategy offers her a practical chance to survive a war. The illusion that Europe cannot be defended has been fostered in large part as an excuse to justify the lack of effort to do so.

The Western powers, including the US, outnumber Russia two to one in population, Soviet manpower is half tied up in agriculture and is badly needed for industrial expansion. Neither China nor the European satellites can greatly assist a drive to the West. Soviet forces themselves would have long and vulnerable supply lines which would have to be guarded against both air and guerrilla attack.

The NATO powers, defending their own soil, would not need equality in numbers. Fifty-odd good divisions probably would be sufficient. If the US and her European allies can't hold NATO's borders we have no right to survive.

Move Over the Sea

Second to Europe in importance is the Middle East. Petroleum and access to Africa combine to make it an attractive target. Against Russian attack its defense is a vexing problem. Excepting Turkey, no strong ally presents itself to us here. Unstable and ambitious "new states" may well provide excuses for Soviet intervention.

Tactical atomics in the Mid-East would be disastrous for us. Suez, the few airfields, and the great Western oil properties would quickly disappear in any atomic exchange. Our advantage in this area lies in our ability to move over the sea and quickly concentrate amphibious forces. Soviet troops, on the other hand, would need to be nourished over the Caucasus and the wastes of northern Mesopotamia.

In both Europe and the Mid-East, defense against the Soviets can be a practical proposition. Aside from the casualties a successful defense would inflict, we have in economic war another means to injure them. Russia is certainly less vulnerable to this tactic than is China, but we should not under-rate our capacity to do her harm. In far more primitive times, Napoleonic France, then ruler of Europe, was seriously weakened by British blockade.

The Soviets have a growing foreign trade. Excepting that with the Red bloc, we could eliminate it. Tin, rubber, sugar, and many other products could be denied her. Her dependence on the water is often overlooked. She has a vast, new, deep sea fishing fleet. This we could sink or bottle up. The polar sea route can be closed by sinking a few ice breakers. The Baltic, Black and Caspian seas can all be mined, as can the Volga and Don rivers. Serious interruptions in the supply of oil and other products would result.

No Easy Way

Unlike China, Russia could strike back with her submarine fleet. The advantage, however, would be ours. Without seizure of Denmark and the Dardanelles, most Russian submarines would be trapped in the Baltic and Black seas. Neither her Arctic nor Pacific facilities are sufficient to sustain a great naval effort. We, on the other hand, have the ships, geography, and surplus capacities with which to outlast Russia in an economic campaign. Once stopped on the ground and increasingly injured by a vigorous blockade, the Soviets would have to settle.

Our strategic situation today demands balanced forces. These divide into five principal categories:

(1) Modern nuclear striking forces—air, missile, or submarine—to prevent atomic attack.

(2) Tactical air forces for ground support, interdiction, and air transport.

(3) Naval forces capable of both enforcing a close blockade and protecting our own commerce.

(4) Strong ground forces for the defense of Western Europe.

(5) Amphibious forces for use in other areas, since we cannot garrison the world.

Each of the forces listed is vital if we intend to maintain our world position. Unlike strategic atomics, no single means of projecting power can now be a panacea. There are *no* panaceas in these days of nuclear parity. God has not so favored the United States that any one capability or weapon is sufficient to insure our continued existence.

The basic strategy we propose is one of unlimited war, using our great maritime and economic advantages to the full. Atomic war is in truth limited war, limited to one weapon and one result—mutual destruction. USMC

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Accelerating the Positive

THE ONLY GRIPE OUR WWII Seabee Bn had about training with the Marines was the short interval between the end of a long training day and the departure of the first liberty bus. A complaint to our CO was passed along to the NCO in charge of our training. With typical Marine aplomb he solved the problem. We were *double-timed from the field* to the barracks—a mile and a half away—arriving in plenty of time to prepare to catch the bus but too tired to care.

$15.00 to F. J. Hynes

Gen Frederic H. Smith, Jr., USAF

(Extracted with permission, from USAF "Air University Quarterly Review," Spring, 1960)

SINCE THE DELIVERY OF ATOMIC WEAPONS ON HIROshima and Nagasaki a few days before the termination of WWII, the world has come to recognize the probable use of nuclear weapons in any general war, with a somewhat lesser appreciation of the immediate and long-term effects upon civilization as a whole. It is safe to say that knowledgeable people in every nation rightly construe an all-out nuclear war between the Communist powers and the free world as being destructive beyond real comprehension, a horror to be avoided if at all possible.

There is, however, little widespread knowledge of the application of nuclear firepower in limited war. In limited war relatively small-yield weapons can and should be used selectively in such a manner as to avoid the destruction of the countries or populations involved and still achieve military objectives at nominal cost. As a result of ignorance and in the absence of clear-cut tactical doctrine, the general feeling of horror engendered by the prospect of a world holocaust, which is reasonable, has been applied to any employment of nuclear weapons in limited war, which is unreasonable.

This confused thinking is not confined to the man in the street but is unfortunately shared by many men in scientific, governmental, and military circles. We in the Air Force have been remiss in our failure to explore fully the wide range and flexibility now available to us in the family of weapons and to enunciate clearly our doctrine for tactical application of these weapons in limited war. We cannot afford to lose friendly nations and territories to the USSR, Red China, or their satellites under any circumstances. It certainly would be inexcusable if we were to lose them simply because we failed to capitalize on our great potential strength through a basic lack of understanding or lack of imagination as to how to use the weapons we now have.

The purpose of this article is to demonstrate that not only can the intelligent use of nuclear firepower in limited war give us the greatest possible opportunity to win such wars at minimum cost to us and to the country we may be defending against aggression, but that it is highly probable that without the use of such weapons our chances of winning in many areas are slim indeed.

The teachings of the Communist ideology are well known to all readers, as well as the vast disparity between the pure manpower resources available to Soviet Russia, her satellites, and Red China on the one hand and to the organized free nations of the world on the other. In the application of this manpower in limited wars the Communist hegemony has the advantage of operating on interior lines and of being able to expend a great number of lives and a large commitment of currently obsolescent material without any sensible reduction of its over-all capacity to wage global war.

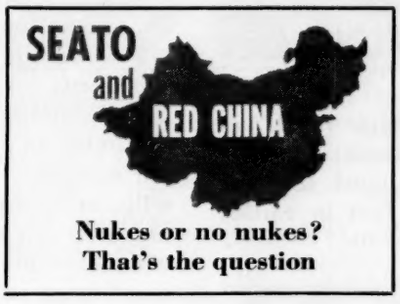
On the other hand the industrialized nations of the free world, in opposing aggression, must operate on exterior lines in most parts of the world and can ill afford heavy loss of life or heavy commitment of modern equipment without a reduction in the capability to wage global war. It follows, therefore, that if we are to prevent further Communist expansion at the expense

of friendly or neutral nations we must find an economical method of waging successful limited war.

Classically a limited war might be defined as any armed conflict short of direct combat between the great powers. If we are to avoid generalities and clear up misunderstandings through a frank discussion of specifics, this definition needs further explanation.

In the first place we must realize that both the USSR and the United States possess ample force to erase any small country as an effective sociological or industrial unit. It would be possible for their air forces to eliminate opposition within and bordering such a country by indiscriminate bombing with nuclear weapons of the sections held by the enemy. Such a defense of an ally obviously would not only be unattractive to that ally but would negate any political advantage to be gained by waging this kind of a limited war.

By extension, there is a very definite upper limit to the destruction of life and property that is consistent with the successful attainment of our objectives. While we cannot specify a general cutoff point at which the tactical advantages of further destruction would be outweighed by the political disadvantages, it is patent that there will be one. The achieving of tactical objectives with a minimum application of force will be a serious factor in selecting targets and in determining tactics. These considerations are the very ones that have been used in the past as arguments against the employment of nuclear weapons in small wars. The considerations are real; the conclusions that have been drawn are invalid.



Nukes or no nukes? That's the question

Whether armed resistance to Communist aggression by the US and its allies can in effect be limited to local areas and not spread to global conflict depends not only upon the will of the combatants but upon geography and geopolitics. The nations in the European economy are alike enough in culture and interdependent enough economically (and in a sense politically) that it is difficult to visualize a limited war being fought in that area. But in the Far East a limited war has already been fought in Korea, and in Southeast Asia one has been fought in Indochina. In the Middle East actions taken by the US and Great Britain in Lebanon and Jordan might well have resulted in limited-war situations. In each of these examples neither of the chief antagonists desired global war; and in Korea and Indochina their wish to avoid it was strong enough to have permitted the tactical use of selected nuclear weapons without serious danger of all-out war, with peculiar and direct advantages accuring to the US, her allies, and the free world.

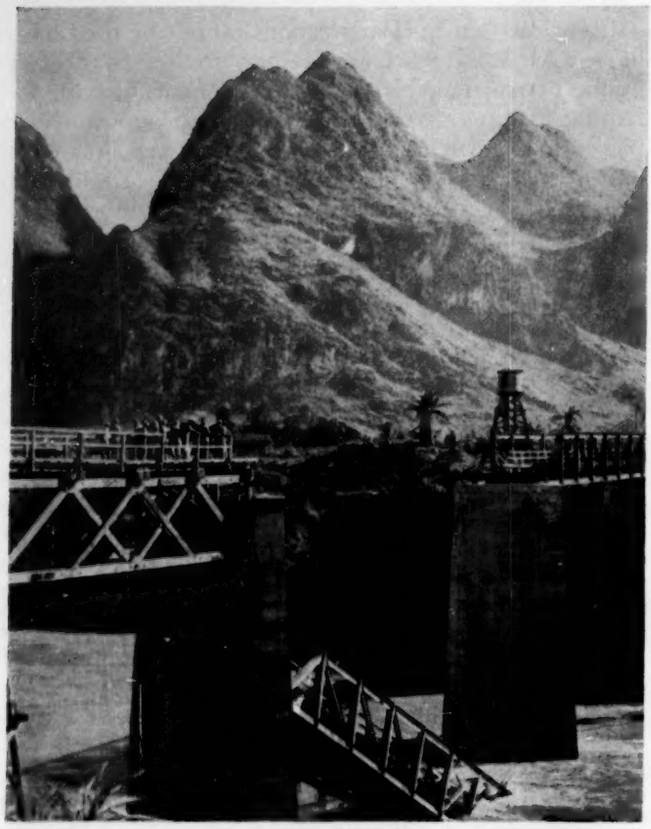
It is clear that nuclear weapons cannot be used haphazardly if we are to keep the war limited and avoid undue destruction to the friendly countries we are defending. Certain very clear-cut restrictions must be placed upon their use—restrictions in targets, in yields, and in character of bursts. The objectives of a limited war must be explicitly defined by higher authority and should include a restriction on strikes outside a delimited zone of hostilities. A limited aggression can be effectively countered under such conditions, and we should develop plans and concepts on this basis.

New criteria for the selection of appropriate targets for nuclear weapons in limited war need to be developed. These must admit a new class of targets, categorized as "situation-control" targets. Typical situation control would be the use of nuclear weapons to destroy forest cover and thus to deny the enemy concealment or passage. Another would be the closing of narrow gorges in mountains by causing extensive land slides. The commander on the spot must have the option of expending weapons in the zone of conflict within his allocated stockpile in accordance with his judgment of the situation, at the same time remaining within the explicit policy guidance concerning the acceptable categories of targets and methods employment placed upon him by higher authority. Counter-air-force targets would of course be brought under attack within the designated confines of the conflict, but in most instances this would require careful selection of weapons and a high precision in delivery to obviate undue loss of life to the indigenous peoples.

Figures given for various battles and campaigns indicate even to the uninitiated the tremendous logistic effort required to support the air operations. The WWII examples were drawn from experience in fighting an all-out war against the Japanese. The Korean war required a major effort on the part of the US, and it was a war we did not win.

In any future conflict with the Communist powers we must anticipate that logistics as well as political factors will be considered and that our antagonist will throw the greatest possible load upon the logistics system supporting our activities. It is easy to envision a number of places in the world, perhaps in Southeast Asia, where we would be forced to operate from the equivalent of bare strips. One can readily visualize the tremendous effort simply to supply fuel, oil, bombs, and ammunition if we were to fight such a war as that in Korea or such as any of the major engagements in the war against Japan, utilizing only napalm and high-explosive bombs and ammunition. Competent studies

"I believe we can prevent future limited aggression by the Soviets or their satellites if they become . . . convinced that we can, and will, employ nuclear firepower from the outset."



In Southeast Asia interdiction targets such as bridges would be rare. Our opponents will take advantage of vegetation. A small A-bomb like the one below will clear an area 8,000 feet in radius

clearly indicate that it would take a period of several days to be able to mount more than a double handful of sorties a day, considering only the provision of fuel. We really compound our logistic requirements if we must provide iron bombs and napalm tanks and jelly.

To be more specific, a single nominal-yield nuclear weapon, airburst, will clear an area of forest about 8,000 feet in radius. To achieve a similar effect with napalm would require 8,000 sorties of F-100 aircraft, each carrying four 120-gallon drop tanks. Not only would 32,000 tanks have to be transported to the operating base but 25 million pounds of napalm would also have to be provided, over and above 8,000 sorties' worth of fuel. In the Ipo Dam campaign the Fifth Fighter Command dropped just under 700 tons of napalm in two days of intensive operations. One atomic bomb of nominal yield with an airburst would have been more effective in destroying cover, would have left no lingering hazard, and, other than animals in the jungle and forest, would have killed only enemy troops.

Reds Fight Under Cover

Nuclear weapons were not available to us WWII except at the tag end of the war. Nor did our stockpile contain sizeable numbers and varieties of them during the Korean conflict. This situation does not obtain now, nor will it in the future. Furthermore, our assumed superiority over the Communist powers is qualitative, not quantitative. In any future limited conflict we must maximize our effectiveness and minimize the strain upon our economy. This can only be done through the intelligent application of nuclear firepower. That such firepower can be employed with no more—and perhaps with less—inhumanity than there was in wars of the past I hope to demonstrate in the following discussion of targets.

Geographical, geopolitical, economic, and cultural factors affect the likelihood of a Communist-instigated limited war. The geographical area we have chosen for a treatment of targeting considerations in limited war may be a no more likely one than many another. Because of the writer's familiarity with the terrain, and because of its relatively wide variety of land and vegetation forms, Southeast Asia has been selected as a hypothetical example to illustrate the application of nuclear firepower against a variety of situation-control targets. The basic principles would apply to any geographical area.

Communist forces have shown again and again that in both large-scale invasion operations and limited guerrilla activities they take maximum advantage of the concealment offered by forest cover. This was beautifully demonstrated in the war against French Indochina, where the Communists were able to assemble, to move, and to fight under cover so that the French forces were rarely able to see them or to estimate accurately their capabilities.

In Southeast Asia standard interdiction targets, including roads, bridges, railways, and rivers, will be few in number and low in value. In most cases the Communists will have the advantage of nearby vegetation cover for concealment. They have repeatedly demon-

strated the capability to move under cover while minimizing their use of standard transportation routes and facilities. Air targets of the standard communications-center type will play a relatively minor role in Air Force limited-war operations in Southeast Asia.

The basic Air Forces operational problem in most limited-war tactical situations will be that of weapons delivery against an enemy who can almost always operate under vegetation cover of such density and extensiveness that detection and precision bombing are almost impossible. In addition to vegetation cover, areas of eroded limestone, karst areas, provide earth cover in the form of caves and extremely rugged terrain. Detection by aerial reconnaissance can generally be avoided by enemy forces. Air Force preplanning, in the sense of standard lists of fixed targets against an enemy in this environment, is next to impossible. Since standard communications-center and interdiction targets—targets that can be preplanned—will play a relatively minor role in limited war in Southeast Asia, this study is addressed to the special problem of "situation-control" targets.

The major targeting consideration will be that of providing for the delivery of nuclear weapons on areas involving enemy assembly, movement, and actual combat, where in most every situation he will be afforded the advantage of concealment. Very little targeting will be possible in terms of preplanning against fixed or pinpoint locations. Targets will usually be discernible and locatable only in terms of general areas in a fluid situation, even where pinpoint objectives are involved. Area saturation of such situation-control targets will be the rule, pinpoint or precision being required only in terms of safeguarding friendly troops and indigenous personnel.

Such targets will require continuing action on a combat necessity basis, where timeliness in weapons delivery is of overriding importance. Nuclear weapons are a critical requirement against such situation-control targets where political considerations permit their use. Timeliness requirements will usually be of such a nature and urgency that the proper or maximum degree of situation control can be effected only if the local commander can use nuclear weapons at his own discretion, as modified and controlled by the ground rules prescribed by competent authority.

Target analysis reveals that Southeast Asia presents generally eight categories of situation-control targets. The eight situations have been described as:

- rain forest
- valley route (rain, deciduous, or bamboo forest)
- mangrove forest
- bamboo grove
- karst area
- mountain defile
- close-contact siege or redoubt
- beach or amphibious landing

Within the above categories an almost infinite number of individual target situations can be visualized in terms of specific situation-control targets and opportunities for weapons application. Nuclear weapons against such targets will usually produce the double effect of (1) disrupting enemy assembly, movement, or battle activities; and (2) clearing away jungle or forest concealment, thus ensuring increased effectiveness from continued nuclear attacks against enemy positions.

In the wide variety of limited-war situations that might confront the US and its allies, no single weapon or weapon system can meet the full range of requirements. We must, in conjunction with our allies, maintain a broad range of capabilities in conventional and nuclear weapons. This is essential for both the deterrent value and combat flexibility.

By the same token, we must not deprive ourselves of the unique advantages offered by imaginative employment of nuclear weapons. We have been quite clear and firm in expressing our determination to use nuclear weapons in total war. Now we need to speak out with equal clarity in affirming that we can and will use nuclear weapons in limited war when such weapons best serve our broad interests and meet the demands of the tactical military situation.

Man-to-Man Combat Suicide

We must achieve, through education and through the development of clear-cut, logical tactical doctrine, a general acceptance by the US of the requirement for the use of nuclear weapons in limited war. This country cannot afford the tremendous outlay in dollars, resources, and men needed to defeat aggression by man-to-man combat on the ground, supported only by high-explosive bombs and rockets, napalm, and machine-cannon fire delivered from the air.

We have successfully deterred war with the Soviet empire by convincing its leaders that we shall not hesitate to employ all nuclear weapons at our disposal if such employment is necessary to prevent the enslavement of the free world. I believe we can prevent future limited aggression by the Soviets or their satellites if they become equally convinced that we can and will employ nuclear firepower from the outset. USMC

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The Ultimate Weapon

While stationed at Marine Corps Base, Camp Pendleton, California, I had occasion to supervise a detail of naval personnel from San Diego who were firing the .45 cal pistol familarization course.

As the first days shooting extended through the noon hour we chowed down on "C" rations. One of the younger seamen, whose expansive waistline identified him as the member of a well-fed ship, after eating half of a can of cold ham and limas peered up at man and remarked:

"Sir, you Marines are wasting your time learning how to shoot the enemy. Why don't you just invite them over to lunch?"

$15.00 to Capt James W. Hanker

A Military Briefing
RED CHINA
NORTH VIET NAM
BURMA
Luangprabang
Plaine des Jarres
LAOS
Mekong R.
Vientiane
Gulf of Tonkin
THAILAND
Thakhek
Mekong R.
Savannakhet
Plateau Bolovens
Pakse
Khone Is.
SOUTH VIET NAM
CAMBODIA
SEATO and RED CHINA
A hot spot that could get hotter

ing on Laos

By Col Nomdeplume

Marines are trouble shooters. Right now, there's trouble in Laos. Here's what you should know—in case you need to know

WHILE I WAS IN LAOS I MANAGED TO VISIT: Ventiane, Luangprabang, Pakse, Savannakhet, the Plaine des Jarres, Xieng Kouang, Samneua, Phong Saly, and Nounghet. I spent very little time in Ventiane; more by jeep and on foot farther afield.

The opinions here aren't exclusively my own. They're a consensus of ideas from my experiences and from conversations with other officers and civilians in Laos.

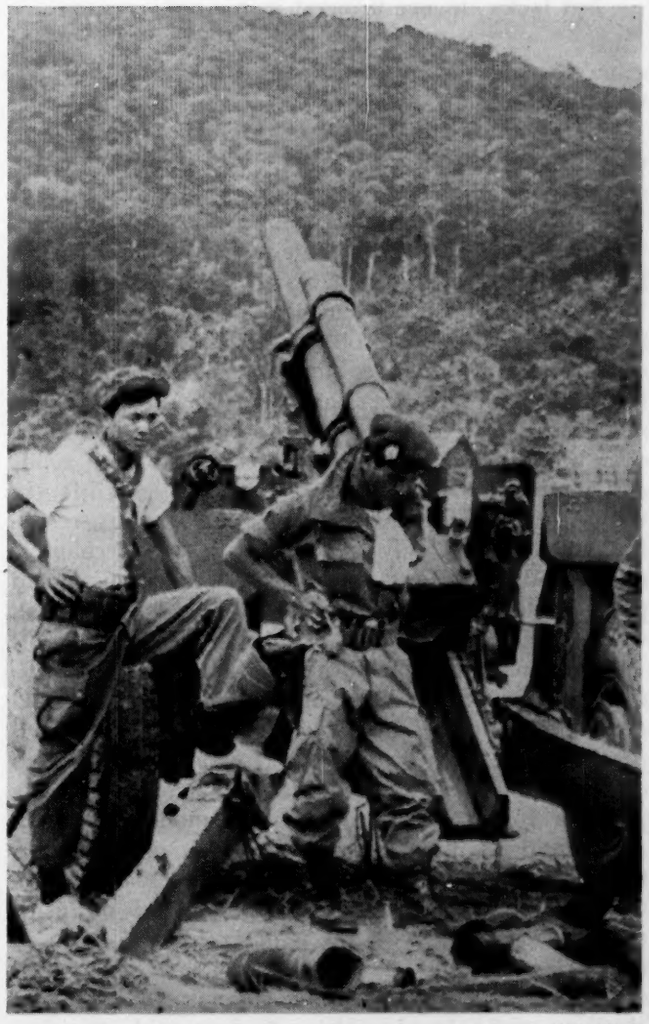
In spite of many rumors to the contrary, the Marine Corps, if committed in Laos, would not find any problems it hasn't met before—someplace, sometime—and whipped. There are dense jungles in Laos; there were dense jungles in Guadalcanal, Bougainville, and New Britain. There are vast rice paddy areas and mountains —as in Korea. Laos combines the mountains of Korea with the jungles of the South Pacific, compounding the difficulties. However, I doubt that the mountains there are as bad as those in Korea were at 20° below.

Let's dispel some of the common illusions about Laos, such as I heard before going there:

Terrain—Laos is not one endless, mountainous jungle. The great central plain of Thailand extends across the Mekong into the Thakhek-Savannakhet-Pakse area. Many parts of the plain are perfectly flat. There are heavy forest, open forest, savannahs, open grassy areas, and rolling hills. Parts look like central Florida, others like Virginia, and some like the open wooded areas of Alabama and South Carolina.

You could deploy a division in most of this area, with amtracs, tanks, SP guns—and make maximum use of air support. In the monsoon season there would be extensively flooded areas, especially near the rivers. Mud would be as bad as the wet season in Okinawa or Korea. You'd need river crossing capability. Even then, much of this area could be negotiated.

The Plateau Bolovens is a sort of geographical freak. Its approaches pass through steep, mountainous, jungle-covered ravines. On top there are jungle forests; also, rolling hills with elephant grass towering over your head. And there are open cultivated areas, including coffee plantations. In other words, in the central part of Thailand—stretching into south and central Laos—we could fight a pretty good "school solution" type of warfare, particularly from west to east. A Thai



Wide World

Laotian soldiers with US 105 near Vientiane. Note rugged terrain. Rebels are just over ridge line

Wide World

The Laotian fighting man—he's a good soldier but lacks sincere interest in his government

Mekong River—LCMs might make it to Burma

Wide World

Jungle hammocks would help avoid vermin, snakes

general thought a corps could be deployed and maneuvered here.

The mountains in Laos vary from low, rolling, barren hills to precipitous, jagged peaks. Mostly they're covered with two types of jungle: either the classical 100-foot deep, closed-over type of WWII, or a thicker, brushy, secondary growth. The real closed-over jungle has less undergrowth and is easier to get through. You find it along stream beds, in flat verdant areas, and on many mountain-sides. The thicker bush jungle has trees from six to 20 feet high. It covers many steep hills and mountain slopes and some flat areas. It's almost impossible to negotiate. It would limit military operations to the extensive valleys and to jeep roads and mountain trails. This would be a light infantry war with maximum use of small arms, mortars, recoilless rifles. You'd rely heavily on jeeps, mechanical mules, and helicopters—even, perhaps, pack horses and possibly elephants. An elephant can be handy to salvage vehicles from canyons or mud.

But no matter how wild the mountain or jungle area, nearly always within a few miles there was a potential helicopter landing site. These are often cultivated patches hacked out by the Mao tribesmen, who live in even the highest, wildest mountains. There's a visibility problem for air operations in the monsoon season. Altitude also hampers. But there are many small airfields for planes of the OE type. Such planes, from the DC-3 down in size, are now the primary means of travel in many parts of the country. Brush—even in many cleared areas—recommends being ready to load or unload hovering helicopters. Panels, brush hooks, machetes, and colored smoke grenades would be critical tools of the trade. Any mount-out should consider this.

The Plaine des Jarres—I want to place particular emphasis on this area. Strategy and tactics in northern Laos must orient on Ventiane, Luangprabang, and the Plaine des Jarres. Any spot that looks and is so much like East Texas placed smack in the middle of one of the world's most remote jungles just can't be ignored. It's just twice the size of Camp Pendleton. There are gently rolling, grassy hills, open woods (some pine), and dry grasslands—these so flat a GV-1 might land in emergency without an airfield. There's also a net of one- and two-way roads. This large bowl is surrounded by moderately-sized, heavily forested mountains. The elevation is a comfortable 3,000 feet (I slept under blankets while Ventiane sweltered.)

There seems to be plenty of water and, in 1953-54, some 12,000 French forces camped here. The approaches to this elevated plain cover some of the wildest, most rugged ground in Laos. There's just no easy way to get there by surface from Ventiane. Note that the eastern approaches favor North Vietnam. Six months before Dien Bien Phu, Ho Chi Minh converged two and a half divisions here. His light infantry found conventional French forces with supporting arms, including air. In open warfare the French could have mangled these jungle troops. Ho Chi Minh withdrew.

Some mountains northeast of the Plaine des Jarres are quite barren. They don't fully protect against China or North Vietnam. The Chinese and the DRV can move and support large forces any place they can walk and carry an A-frame. To disregard this fact would be to ignore the bitter lessons of Korea—and the disaster of Dien Bien Phu.

Communications—It's too pessimistic to say there's simply no road net in Laos. The road north to Pakse is paved. From Pakse to Thakhek four-wheel vehicles can go in all weather, touring cars in good weather.

From Thakhek to Ventiane roads may be fair, poor, or out—depending on floods and collapsed bridges. The road north to Thakhek and the ones leading inland from Savannakhet and Pakse could support a division as initial MSR. If the division engineers kept working they could keep it in.

In Northern Laos most roads are short, one-way jeep roads. That's the best you can say. They're usually cut from landslides and bridge washouts. They used to be better. I think it would be possible to repair and re-establish some—at least as fast as we could advance on foot against light opposition. Note that the DRV approach roads and North-South communications parallel to the border are both kept up and in good condition.

The Mekong River has long been the life stream of communication and transport for Thailand, Laos, Cambodia, and South Vietnam. Only certain stretches are navigable. Rapids require trans-shipment near Savannakhet, north of Luangprabang, and over Khone Island in South Laos. At Khone Island, the old marine railway can easily be put back into commission. This would let LCM some in at high water (mid-April to mid-October) and move to Ventiane. A group of experts believe in that season LCM with river pilots could navigate clear to the Burma border. Within the broken stretches, much cargo can be moved, then transshipped. Native diesel-power sampans haul 27-40 tons. Stopping at night, the trip from Luangprabang to Ventiane takes three days. The Mekong rises and falls 30 feet. The maximum current is six knots; it averages 3.3 knots. I've seen trees four feet across floating in the muddy water.

Medical—Troops operating in Laos would be exposed to the usual tropical diseases. Also, there are several viruses to which the natives become immune. These are like stateside viruses—chills, fever, nausea, backache. In sanitation this is a primitive area, even for the Orient. Tuberculosis is rampant—and entire families still share one water glass. The coughing competes with the rooster's crowing at night (Laotian roosters begin crowing at sundown). Colds, bronchial trouble, and pneumonia are common—a result of day-to-night temperature changes, especially at altitude.

One final note: the local girls are very attractive.

Reptiles—Poisonous snakes include the cobra, king cobra, and very deadly krait. Most troops would never see one. But there would be snake bite cases—and there is now effective serum. You'd need snake bite kits as squad level. Leeches also crawl, and leave you soaked in blood from the knee down. This can wear you out on a hike, the French say.

Recommended organization and equipment—What's needed for Laos would apply generally to all Southeast Asia. First, the 13-man squad was tailored to this sort of thing. It's still excellent. So are our infantry and artillery organizations. Tanks should be a low priority item, especially in Laos. Mortars would be of prime importance. I think we'd miss the 60mm. In mountainous jungle, mortars and recoilless rifles will have to do a yeoman job; in other areas there'd be plenty of need for conventional artillery.

All transportation should go, but in forward areas the gear will move mainly by chopper, jeep, mules, and field boots. Native horses can carry 40 pounds; an elephant, 450.

Ground troops will have to find most targets for air strikes. Once located, they must be pointed out—and there'll be darned few map coordinates or reference points to use. They'll need smoke and panels and more of the same for helo sites. I'd recommend each battalion take submachine guns for use on patrols.

For individual gear, only a few items would be special. The ground is soppy, vermin and reptile infested—worse during the monsoons. Jungle hammocks are one answer. Each Marine would need the regular field boot; also jungle boots. The FAL and French use the jungle shoe entirely. It dries out rapidly, doesn't warp from constant dampness, and won't encourage jungle rot. You'd need the standard summer weight sleeping bag with sleeping bag cover and WP bag. Mosquito nets, of course, and the jungle kit.

Another item is gloves. The jungle and brush is full of thorns, stinging nettles, and saw grass. In climbing steep jungle slopes a man is always grabbing something for support. Minor cuts and scratches infect rapidly. All that's needed is the 15¢-store variety of canvas gloves with leather palm.

For a typical overnight patrol in mountainous jungle a Marine should carry:

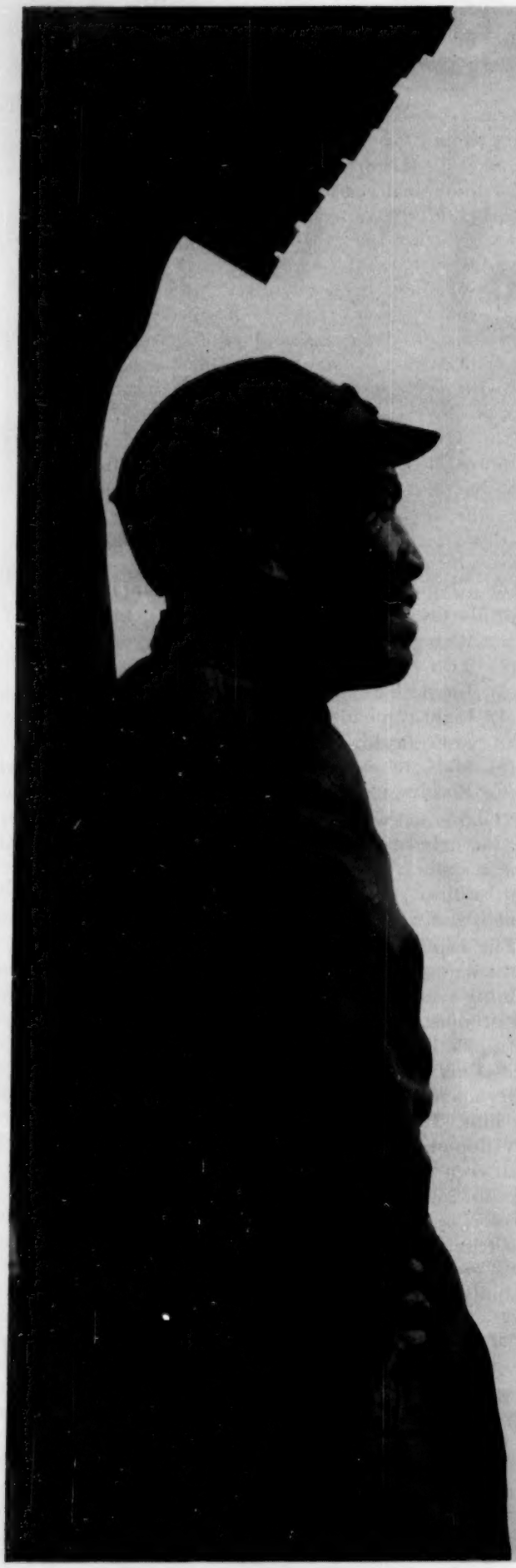
(1) Web gear and weapon
(2) Two canteens of water
(3) Jungle kit
(4) Light combat pack w/ poncho, sleeping bag cover (at high elevations, a sweater).
(5) Machete
(6) Rations and ammo

NO armored vest! In some cases don't insist on wearing the helmet. Mobility will save more lives than armor in those steep, hot jungles.

In addition, the patrol should have a snake bite kit, panels, and smoke grenades or flares.

The Lao Military—The "Forces Armee Laos" (FAL) is the name. The Laotian himself is a good potential fighting man. He is alert, responsive, makes a good paratrooper, has a great sense of humor, and is the most likable, happy oriental in Asia. His biggest weakness is his isolation and lack of sincere interest in his government which has always been remote, doing little for him. There are also 12 Volunteer Battalions, actually non-uniformed, organized into six-man teams in their own villages. They are armed with rifles, mostly French, and have a few rounds of ammo per man. Their mission is to defend their villages automatically until the regulars show up. They are also slowly working these groups into civic improvement teams—to counter a similar Communist program. USMC

The Gazette prefers to avoid "noms de plume." But both magazine deadlines and world affairs are pressing. A briefing by a bona fide Marine colonel was recommended to us by three general officers as an outstanding source on Laos. He was far away, heavily committed. Accordingly, with his permission, we've adapted his talk.



Some Chinese Thoughts on War

By BGen Samuel B. Griffith, USMC (Ret.)

ONE OF THE MOST CHALLENGING PROBLEMS NOW CONfronting western Intelligence organizations is to acquire fundamental information on which to base reasonably realistic estimates of Red Chinese military capabilities. This formidable task is not likely to grow any easier in the foreseeable future. Probably it will become even more difficult and frustrating. Hence it is of paramount importance that we exploit every possible open source which may contribute to a better knowledge of military developments and a more correct understanding of military thought on the Chinese mainland.

Some of the more obvious of such sources are press articles, radio broadcasts (particularly those designed for internal propaganda purposes) and speeches and reports delivered by political and military personalities on both national and provincial levels. No matter how rigorously such sources are censored or controlled, a considerable amount of valuable information relating to technical progress in arms, deployment of forces, organization and command can be culled from them. Published works of leading Communists must also be consulted. Systematic collection and comparative analysis of these materials is—and will remain—an essential part of the often tedious routine from which the elements of any valid appreciation of the military situation in Red China can be produced.

Another important area, and one that has in the past been almost completely neglected, is doctrine. Only

Red China Communist Party Chairman Mao Tse-Tung (left) with Gen Chu Teh, Defense Vice-Chairman. Mao is a keen student of military strategy and our author has long been a keen student of Mao

fairly recently has this situation been partially rectified. In respect to Russia at least, valuable contributions have been made by Garthoff and Dinerstein, among others. But very little work has yet been done in this field with respect to China. As doctrine is a matter to which the Chinese leadership devotes considerable attention, it should prove rewarding to examine the subject at least briefly.

The sources of current doctrine are directly traceable to remote antiquity, to the age of the almost legendary Sun Tzu and the famous early fourth century general, Wu Ch'i (executed in Ch'u State in 381 B.C.). Sun Tzu and Wu Ch'i, particularly the former, were pioneers in the field of military thought, but they were by no means the only Chinese writers on the military arts. As early as the eleventh century of our era seven such works were designated "Martial Classics." In this canon, Sun Tzu's *Art of War* was given pre-eminent position.

Whether this Sun Tzu was indeed a celebrated general of the late sixth or early fifth century B.C. or whether the *Art of War* ascribed to him was written by a general known as Sun Pin, who lived several centuries later, is a problem that will never be settled to the satisfaction of scholars. Indeed the question of authorship of this cryptic masterpiece is of little importance. The perennial attraction of Sun Tzu lies not in who he was, but in what he had to say on the subject of war.

Inside the Oriental mind

In the course of a long and frequently sanguinary history scores of Chinese statesmen and generals have devoted a staggering amount of time and energy to thinking, talking and writing about war. Sun Tzu's work was but the first of many that have been studied for centuries in China. It is true that there have been times when the viability of China's military tradition was in a precarious state. Their leading philosophers universally condemned war. Confucius, although not an active pacifist, considered war an avoidable evil; Mencius opposed the use of force, and Motzu castigated princes who waged aggressive war.

Neither Buddhists nor Taoists had any time for militarists and united in excoriating them and their activities. In the hierarchy of Chinese Confucian society the professional soldier always stood on the bottom rung of the ladder—below scholars, farmers, artisans, and tradesmen. Good iron was not used for making nails and good men did not become soldiers. Nevertheless, war has always interested the Chinese. Even in the third century B.C. a celebrated statesman testified to this

BGen (Ret) Griffith, the first grandfather ever to be admitted to New College, Oxford as a freshman has now completed his thesis relating to the development of Chinese thought. He awaits his PhD from the Board of Oriental studies. As far back as 1935 he was a Chinese language student at the American Embassy in Peking and his Marine Corps career has been spiced with duty with British Commandos and Marine Raiders. His writings have appeared in Gazette, the Saturday Evening Post, Naval Institute Proceedings and the New Yorker. Among his many works he is well known for his translation of Mao Tse-tung's "Guerrilla Warfare," which was published originally by Gazette in June 1940.

when he observed that the works of Sun Tzu and Wu Ch'i were "found in every household." And even during long periods of peace there were always some intellectuals who maintained an active interest in their military heritage.

But it remained for the Communists to resuscitate the ancient martial tradition. Chairman Mao, a poet and scholar of no mean attainments, has for many years been profoundly interested in military theory. Since his youth he has been a keen student of Sun Tzu and Wu Ch'i, whom he constantly quotes. The speeches of his generals are liberally sprinkled with pungent bits from the ancient texts which again, as in the Imperial era, are required reading for officers of the armed forces.

Renewed interest in their martial inheritance is by no means confined to leading Chinese political and military figures. In the last several years government publishing houses have brought out five new editions of Sun Tzu's *Art of War*. One of these, a "translation" from the classical idiom into the colloquial, is designed to appeal to a wide audience on the soldier-student level. It sells for the equivalent of a few cents. At the same time, historians and scholars are busy analyzing the early texts in a major attempt to restore them to their pristine state. Cartoonists have been pressed into service to design colored booklets which depict the exploits of famous generals of antiquity. The accompanying comment is written in the most elementary language. These strips, avidly read by children as well as by adults who have recently mastered a few hundred basic characters, flood bookstalls over the country. The intent is, of course, to foster a renascence of national pride and national spirit, two qualities that for the past century have been moribund in the Chinese people.

This lack of national spirit was reflected in the chaos that characterized the modern scene in China until the Communist assumption of power. And it produced in Western countries a completely mistaken opinion of the martial qualities and abilities of the Chinese. Even the defeats suffered by the US Army in Korea did not suffice to dispel the illusion that the Chinese lack the essential characteristics of the good soldier. This opinion, like all those based on emotion or ignorance, is extremely dangerous. In the perspective of history, the Chinese military record is excellent. In terms of imaginative generalship in the conduct of arduous and distant campaigns there are Chinese commanders who need not yield to Alexander, Hannibal, Caesar, Belisarius, or Napoleon.

But substantial military success is not to be ascribed to personalities, however brilliant. To a greater degree this depends on theory and doctrine. And as early as the second century B.C. the Chinese had developed a sophisticated theory of war and effective strategic and tactical doctrines. Moreover, in organizational, administrative and technological terms, the Chinese took good care to be generally superior to the enemies they faced. They were occasionally beaten, but they won their wars. It is no exaggeration to say that in 100 A.D. Chinese shock infantry equipped with magazine-fed crossbows and cavalry armed with composite reflex bows would have had little difficulty coping with the ponderous legions of Imperial Rome.

The Chinese were overcome by the West in the nineteenth and twentieth centuries, not because their theory of war was inferior—it was in fact superior—but because of the preposterous corruption and unbelievable inefficiency which characterized the Imperial administration. The court, torn by factional intrigue, was never able to cope (except hesitantly and ineptly) with the foreign forces intent on despoiling the country. As well, there was a tremendous technological disparity, comparable almost to that which existed between Conquistadores and Aztecs, between the "foreign devils" and the Chinese. It is doubtful that even an effective government could have stood its ground, particularly against the insatiable rapacity of the Russians and the Japanese.

No Reason for Complacency

Today there is in China a vastly improved administration, little corruption, and only occasional evidence of minor schisms. To be sure, major technological disparity exists between China and the West in the fields of electronics, nuclear weapons, and missile delivery systems. But there is no reason for complacency here. This gap will be closed. In intellectual terms, it may be we who have to close a gap. Such a neolithic approach to war as the doctrine of massive destruction finds no great favor in Chinese eyes. The Chinese have always believed that war can be conducted within a rational framework consistent with the immediate object of military action—"to defeat the enemy and preserve one's self."

It will be apparent that Chinese concepts have a closer relationship to those of Machiavelli than to those of Clausewitz. It will be obvious, too, that in some respects this pattern is a more subtle one than that with which we are familiar. Subtlety is considered by the Chinese as a virtue, not a vice.

Admittedly, it is asking for trouble to attempt to produce a list of principles which should serve as guides to military action. No such list could be universally satisfactory. It is therefore with some trepidation that I present the summary which follows. The principal purpose in doing so is to generate discussion. The "principles" listed are all to be found in Sun Tzu's *Art of*

War or may be directly inferred from it, and are as relevant today as they were 24 centuries ago.

Morale

All Chinese military writers devote a great deal of attention to morale: "That which causes the people to be in harmony with their leaders so that they will accompany them through life and unto death without fear of mortal peril." The morale of the people is high when government is humane, benevolent, just, and righteous. The morale of the army is high when the general is wise, sincere, humane, courageous, and strict; when his orders are sensible and consistent; when his rewards and punishments are honest and equable. The good general treats his soldiers as "his children," as "his own beloved sons"; they share every peril and every hardship and march together "into the deepest valleys."

Morale is the foundation of national life and the fundamental requisite to victory. Only when both the state and the army are in harmonious accord will "superiors and subordinates go forward with united purpose." The Communists won the empire essentially because they sustained their morale at a consistently high level. It was a positive, driving force. Chiang K'ai-shek lost the empire because Nationalist morale distintegrated.

Deception

"All warfare is based on deception." This is a substantive concept. Deception is always legitimate in the promotion of national self-interest or national defense. Deception is active. The enemy must be deceived, deluded, and mystified. He must be led to believe what one wants him to believe so that his action will contribute to the attainment of one's own aims. "Create an uproar in the east, decoy him to the west, distract him to the front, strike him in the rear." The application of this cardinal principle is by no means confined to action on a tactical level.

Surprise

"Go forth when the enemy does not expect you; catch him unaware." To achieve surprise it is usually necessary to proceed by a devious route—"to make the indirect the most direct." Deception and distraction contribute decisively to the attainment of surprise and multiply its effects.

Surprise is most frequently achieved on the tactical level, but should be sought on all levels of action in terms of time, place, doctrine, and technology. It is interesting that the Chinese have frequently achieved surprise in combat by sudden shifts in commanders; for example, the secret replacement of a cautious commander by a daring one. They are also adept at "turning misfortune to advantage," as they proved during the Korean war when they used difficult terrain and extreme weather as allies.

Mobility

No matter how successfully the enemy may be deluded and deceived as to one's true intentions, all potential advantages of surprise will be lost if forces are not mobile. Mobility translates readiness into action. The ability "to move like the flash of lightning" that leaves the enemy "no time to shield his eyes" is the only valid criterion of mobility. A strategic force is of no value unless it can be moved to the scene of action with speed, secrecy, and efficiency.

Rapid maneuver on political, strategic, operational, and tactical levels is essential to make the enemy react. It is only by observing the enemy's reactions that his pattern can be established. This concept is sometimes expressed as follows: "If no maneuver, then no reaction. If no reaction, then no pattern-establishing."

Timing

"The hawk breaks the back of its prey because of its timing." Timing is complementary to surprise. To time action in relation to ever-changing circumstances requires the ability to recognize the fleeting opportunity and the will to grasp it. Timing is particularly important in terms of political action.

"Opportunism" has an unsavory connotation in the West; it is used generally as a term of disparagement. To describe a man as an opportunist is not considered to be in good taste, even if he is one. Historically the term has in Chinese eyes a complimentary connotation rather than the reverse.

Disruption

It is essential to unbalance the enemy, to dislocate him, to throw his plans into disarray, to confuse his leadership. This is frequently accomplished by an entirely unexpected maneuver which the enemy is too inflexible mentally or too ponderous physically to counter with effective rapidity. The enemy is to be worn out, plagued, bothered, harassed, irritated, and given no rest. Disruption initiates a chain reaction with cumulative effects on the enemy's state of mind and thus on his morale and on his ability to plan.

The creation of cleavage between allies, between segments of a people, between the ruler and his counsellors, or a general and his advisers, is a method of disruption described as "wedging" or "wedge-driving." The West is particularly susceptible to "wedge-driving."

Chinese thought is closer to that of Machiavelli than to Clausewitz . . . "The hawk breaks the back of its prey because of timing" . . . "All warfare is based on deception . . . "

We may be sure that the Chinese, who are masters of the art, will miss no opportunity to widen rifts, both international and domestic.

Fifth Columns are standard equipment in the Chinese armory. An extensive literature is devoted to discussion of successful Fifth Columns and to the types of people who may most effectively be employed to provoke internal cleavages and to encourage "those within to incline to those without."

Flexibility

As used by the Chinese this term refers to a quality of mind and will; that is to say, to adaptability and the expedient use of available resources under changing circumstances. The less mature Western concept of flexibility relates primarily to the ability to shift forces.

Concentration

Sun Tzu said: "In war, numbers alone confer no advantage." The enemy must be divided; "many must strike few." He who cannot divide his enemy is no master of the art of distraction. We distract; he disperses his force to meet our threats; we direct our concentrated power against selected weak points. Power embraces superior planning, superior generalship, superior troops, better use of weather and of the ground. "Concentration" thus embraces intellectual, physical, and psychical elements. It is thus decidedly more comprehensive than the same word as used in the West, where it is ordinarily equated with "mass."

Momentum

"The momentum of a victorious army is like that of a cataract plunging into a bottomless abyss." Momentum must be sustained, or the effects of disruption will be dissipated.

Freedom of Action

Classical writers make it clear that the sovereign and the commander must gain and retain freedom of action (the initiative). Contemporary leadership regards this as the *sine qua non* of all political-military action. If initiative is momentarily lost it must be regained. Here it is important to note, however, that all withdrawals from advanced or exposed positions, be they political or military, are not necessarily abdications of initiative. They are frequently made to re-group forces or to lure an unwary enemy to move.

These factors are comparable to what we describe as the "principles" of war, but there is a fundamental difference both in conception and application. Chairman Mao (paraphrasing Clausewitz) has said that war is the continuation of political action, political action is the continuation of war. We do not define political action in these terms. But the Communist Chinese do. Consequently it is safe to assert that the factors listed will be operative both in time of peace and during war.

The framework suggested above rests on four pillars: (1) Intelligence; (2) Estimates: (3) Planning; (4) Prudence.

We all know why Stalin smiled and talked of lighter things at Potsdam when Mr. Truman told him of the atomic bomb. The irony of the situation was that the Dictator probably knew almost as much about the bomb as the President did.

Estimates are based on intelligence. Whether an objective estimate on the national level is possible within the rigid limits prescribed by Marxism-Leninism-Stalinism-Maoism is doubtful—but dialectic is never permitted to influence estimates of enemy operational capabilities.

The primary meanings of the Chinese character usually translated as "plan" are, in fact, "plot," "scheme," "device," "ruse," or "stratagem." Every great Chinese commander has had a "stratagem officer" whose duty was to devise schemes that would lead an unwary enemy to destruction. "Planning" thus usually involves features which are not customarily considered in the West.

Prudence is an attribute often confused with hesitancy, especially by generals, admirals, and politicians in the United States. A prudent man is not a hesitant one. The hesitant man will never get around to going into the tiger's den "to get the tiger's pups"; the impulsive man will rush into it recklessly and be devoured in the process. The prudent man will get the pups and keep his skin. The prudent man weighs the situation, then moves. He acts within the limits of the feasible. He knows his enemy, he knows himself, and "in one hundred battles is never in peril."

It is perhaps a coincidence that the pattern outlined is consistent with conventional Soviet Communist theories of action. On the other hand, perhaps it is not coincidence at all. The interesting and as yet unsolved problem is to determine to what extent the fundamental concepts of Soviet action derive from this age-old Chinese pattern, and to identify the channels (as devious as they have hitherto been unsuspected) by which it was transmitted. The evident similarity between Soviet and Chinese military theory can scarcely be attributed entirely to the blind operations of chance.

Conflict between an expanding Soviet Russia and an expanding Communist China is probable. But we can derive no present solace from this, for it will take place in a later historical era. Conditions are not yet ripe. When they are, those who are still around may derive a qualified satisfaction from observing the preliminary maneuvers of these two experts in the arts of deception, duplicity, and opportunism as they struggle for the hegemony of Asia. USMC

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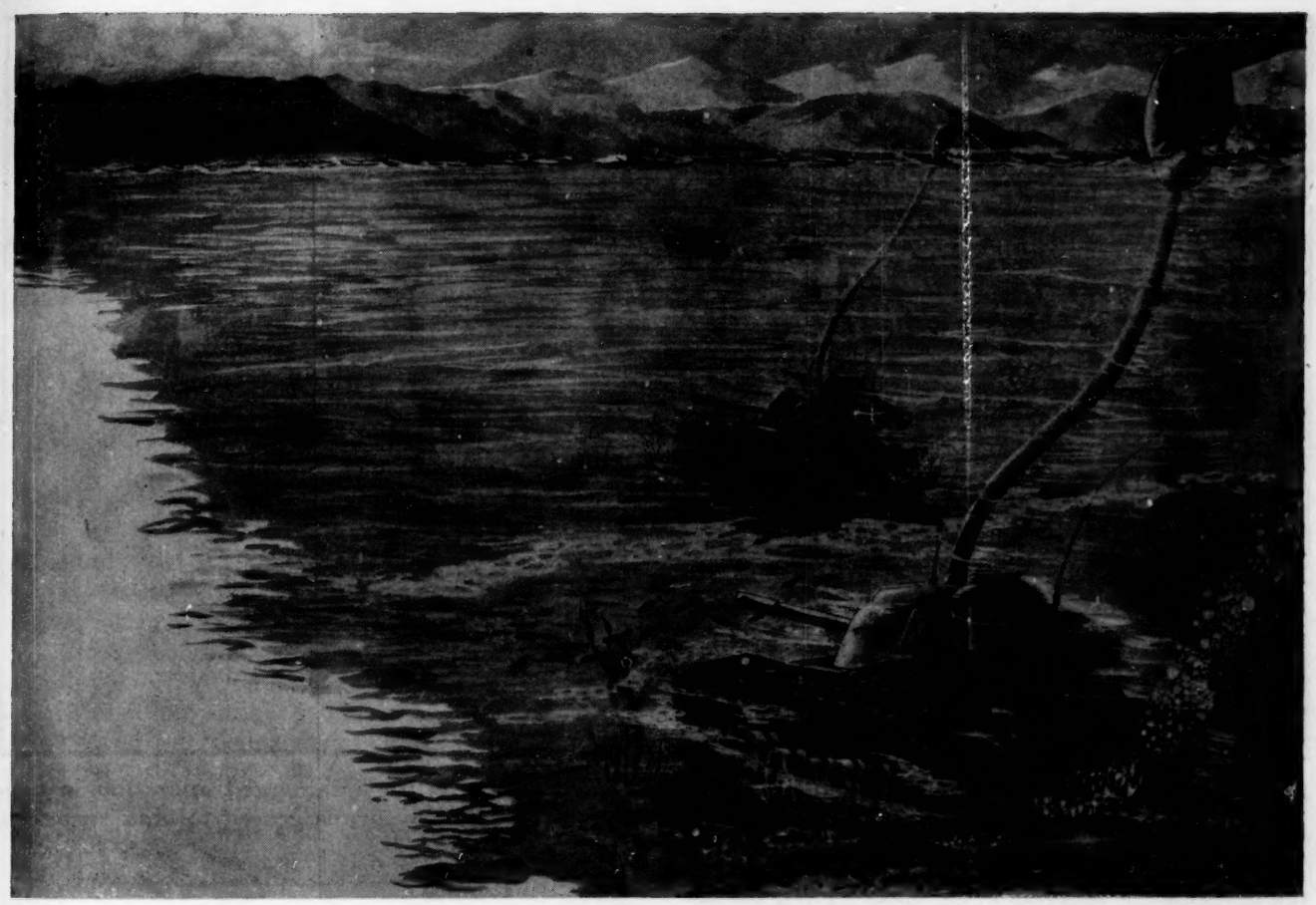
It's All in Your Point of View

A TRUCK DRIVER FROM BN CP, caught by an alert platoon leader with an unexploded Chinese 76mm shell in the front seat of his cab, explained his souvenir this way: "I played it safe, sir. The nose of that thing was pointed away from me all the time."

Capt W. W. Grant



UNEXPLOITED CONCEPTS

By Richard M. Ogorkiewicz

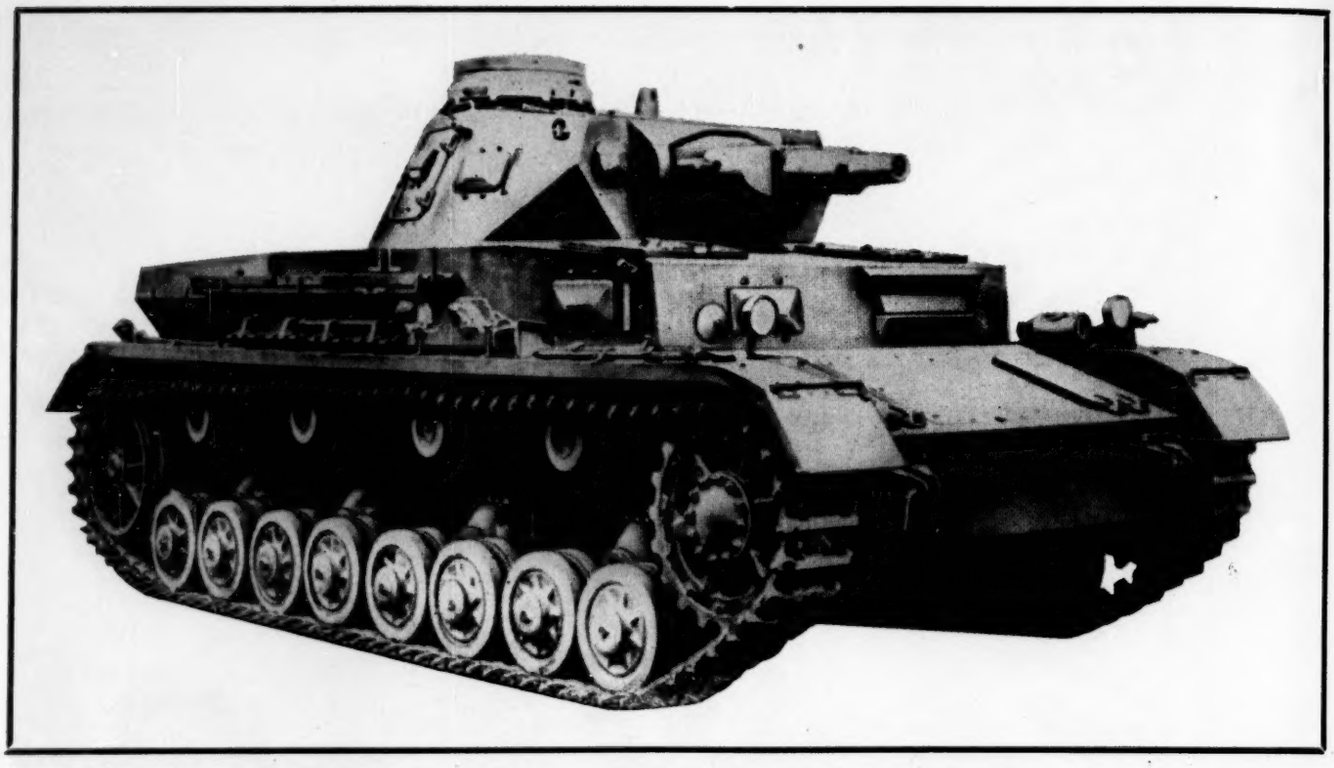
Submersible tanks and sub tank carriers were conceived years ago, almost worked. Are they feasible with 1961 technology?

FORTY YEARS AGO THE STORE OF IDEAS ON AMPHIBIOUS warfare was enriched by a then remarkable suggestion for employment of tanks delivered by submarine carriers. Twenty years later the related concept of a submersible tank was translated into practice and came within a hair's breadth of being put to test in an amphibious assault landing. Today, 20 years later still, submarine tank carriers and submersible tanks continue to await fulfillment. Both concepts are little known but both are worth considering because they might yet find application in amphibious operations.

The original idea of a submarine tank carrier was put forward by Gen J. F. C. Fuller, the British apostle of armored warfare, at a lecture delivered in February 1920 at the Royal United Service Institution in London. Gen Fuller had already shown considerable interest in amphibious armored vehicles. He was instrumental in the development of the first amphibious tank begun in England at about the same time. In his historic lecture, Gen Fuller advocated employment of tanks in amphibious operations. First, he said, they should be landed from special surface vessels—then, at the next stage of development, from submarine tank carriers.

Gen Fuller's prophetic ideas on employment of tanks in amphibious operations were vindicated in part during WWII. At the time, however, immediately after WWI, they aroused little interest. To most people of that day, tanks were still a questionable novelty. It had been only five years since the first one had been built. And it had been less than two years since the first successful experiment at making a tank float, which took place with the British Mark IX in October 1918.

In consequence, few appreciated the possibilities of tanks in land warfare, let alone in amphibious operations. Even fewer were prepared to devote resources to



In 1940 the Germans adapted 210 medium tanks like this Pz.Kpfw.IV for submerged operation in projected assault on Britain. Light tanks were fitted with floats powered by props geared to tank sprockets

the development of amphibious tanks. Thus, the amphibious Medium D tank, which Gen Fuller sponsored, was abandoned in Britain in 1923. Only sporadic attempts were made between then and the outbreak of WWII in 1939 to develop amphibious armored vehicles.

The principal attempts were represented by amphibious vehicles designed by J. Walter Christie during the early '20s (experimented with by the Marine Corps), the British Vickers-Armstrong amphibious light tanks of 1930, and the very similar Soviet T-37 and T-38 amphibious reconnaissance tanks. In other respects progress made in the application of armored vehicles to amphibious operations was very limited. Even tank landing craft, which had been thought of in WWI, still had to be developed.

As a result, when the problem of amphibious operations arose early in WWII, the participation of tanks was still an open question. First to tackle the question were the Germans. After their lightning victory in France in 1940, the Germans found themselves faced with Operation Sea Lion, the projected invasion of the British Isles. Armored forces had played the leading role in the two previous campaigns, in Poland and in France. Like virtually all other countries, however, Germany had made no preparation for the use of tanks in amphibious landings—which now confronted them. They had neither specialized amphibious tanks nor means of bringing standard tanks ashore. Time was short and the Germans adopted not one but two methods of using tanks in their planned assault landings on the south coast of England.

One method was conventional. It was applied to the Pz.Kpfw.II, a three-man 11-tonner which was the most prevalent German tank at the time. The German system consisted of fitting a long rectangular float to each side of the tank. Apart from providing the required additional buoyancy, the floats also housed a drive geared from the front sprocket to a propeller at the back of each float. In this way a number of Pz.Kpfw.II were converted for use as amphibious light tanks.

The conventional method used with the Pz.Kpfw.II was not considered suitable, however, for the heavier 20-22 ton Pz.Kpfw.III and IV medium tanks. Their weight would have necessitated excessively large floats. So instead of trying to make them swim ashore the Germans adopted the unconventional approach of making them submersible. This meant the tanks could be launched from landing barges, standing some distance off shore in relatively shallow water, then move underwater along the sea bed until they emerged on the hostile shore.

Air Supply Drawn Through Hose

To make them submersible the tanks were sealed and each was provided with a 59-foot flexible rubber hose, about eight inches in diameter, connected to a light alloy buoy which floated on the surface of the water. Through this hose air was drawn into the vehicle for the crew and engine. Each buoy carried a short air stack and a small antenna connected with the tank's radio. Engine exhaust gases were discharged into the water through high pressure non-return valves. Engines were cooled by circulating sea water through ports connected to the normal liquid cooling system.

Modified in this way, tanks could move along the sea bed in water up to 49 feet deep and complete the approach to the hostile shore virtually unseen. When

they emerged out of the water the rubber covers over the turret armament, the bow machine gun, and the commander's cupola could be blown off by small explosive charges and the tank was ready for combat. Navigation underwater was achieved with a gyro compass. The volume of water displaced by the tank greatly reduced its real weight. No problem of track sinkage was encountered, even on the softest bottom.

Development of submersible tanks encountered a number of difficulties. At least one crew was lost because of engine exhaust leaking into the crew compartment. Nevertheless, remarkable progress was made in a very short time. The rate of progress achieved by the German during the summer of 1940 is in fact astounding.

Operational Two Months After Development

The campaign in France, which was to release men and equipment for the invasion of Britain, came to an end on 22 June 1940. On 26 June the first full scale demonstration of an experimental submersible tank took place before government and military officials. During the following month, when planning for the invasion began in earnest, a special experimental staff was set up under the command of one of the Panzer corps to develop operational and tactical use of amphibious and submersible tanks. At about the same time four special tank battalions were activated by drawing on personnel from other armored units with combat experience. Toward the end of August, 210 medium tanks had been prepared for submerged operation and 52 Pz.Kpfw.II had been transformed into amphibious light tanks. Most of the tanks were at Putlos, near Kiel, on the Baltic coast. By September 1940, little more than two months after the development of submersible tanks had begun, the four tank battalions were ready.

The four tank battalions, their 250-odd tanks representing the tank strength of an armored division, were to be landed with the leading echelons of six infantry divisions within the first two hours after German amphibious landing on the southeast coast of England. Operation Sea Lion never materialized, however, and the submersible tanks were never put to test in an amphibious operation. Thus, by the end of 1940, the four tank battalions were reassigned to other roles.

Although reassigned to a different role, tank units of the 18th Panzer Division retained some of the equipment and techniques for submerged operation. A year after their development began, a few submersible tanks were used successfully to effect a river crossing under combat conditions. This occurred on 22 June 1941, the first day of the German invasion of Russia, when the 18th Panzer Division crossed the river Bug in eastern Poland.

No other use appears to have been made of submersible tanks, although some of the tanks of the 18th Panzer Division retained their capability for submerged operation. Provision for submerged operation was subsequently incorporated in the design of the German Tiger I heavy tank. This was done, however, with a view to getting around the problem of crossing bridges rather than amphibious operations. But apparently no use was ever made of the deep-wading equipment of the Tiger I. It did not reappear on later German designs of the 1942-1943 period, such as the Panther and Tiger III. Since WWII, however, there have been unconfirmed reports that the Russians have continued development of this type of equipment and have used it on medium tanks for river crossing operations.

From the point of view of amphibious operations, the submersible tanks which the Germans developed in 1940 exhibited several major shortcomings. In particular, their possible employment was limited to favorable conditions of calm seas and stretches of relatively shallow coastal waters. But the German tanks of 1940 do not necesarily represent the ultimate in this line of development. They were, after all, only the first attempt and should perhaps be more accurately described as deep wading rather than submersible tanks. A truly submersible tank would be able to operate in much deeper water and it is conceivable that it would dispense entirely with the cumbersome air line to the surface. For instance, the use of engines operating on high energy chemical fuels, instead of gasoline or diesel oil, would eliminate the need for air supply to the power plant. The oxygen needs of the crew could be met the same way they are in submarines.

Surprise Landing Would Be Possible

Much more advanced submersible tanks developed along such lines could then be used in conjunction with submarine tank carriers, which would discharge the tanks unobserved, underwater, to affect surprise landings on hostile shores. As a method of achieving surprise this system would in fact be unsurpassed. The submersible tank-submarine, tank carrier combination would constitute a powerful new instrument in the hands of amphibious forces—a third prong to add to the existing two prongs of surface assault and vertical envelopment.

At present the scheme may still seem a little farfetched and the submarine tank carrier an idle dream. But before one dismisses the idea as impracticable, it is well to reflect on progress made in recent years in submarine construction. Particularly, one ought to consider the distinct possibility of development of large nuclear-powered transport submarines. In the light of this possibility and the current rate of technological progress, a submarine tank carrier is quite feasible—and so is a submersible tank. USMC

Mr. Ogorkiewicz is a lecturer at the Imperial College of Science in London and has made an intensive study of armor for a number of years. His articles have been published in military journals in Britain, the US and other countries. Over the last decade he has written more articles on armor than anyone else this side of the Iron Curtain. His book, ARMOR ($7.95 Frederick Praeger, N. Y.) is the first comprehensive account of armored forces—the way they have evolved, the vehicles they use, and how they fight.

Recon for

By Rex L. Pickett, Jr.

"THE INFANTRY REGIMENT SHOULD DEVELOP A RE-connaissance capability using its organic troops up to about 10,000 yards." So stated LtCol H. J. Woessner in his article, *Employment of Recon,* (GAZETTE: Dec '59).

This requirement can be filled. We have the personnel right in our TO squads and platoons. We are training them well to operate as fire teams within squads, or as squads within platoons. We are not, however, training them to operate as units by themselves, such as on reconnaissance or security patrols well forward of their respective units. Nor are we training them to operate 10,000 yards from friendly lines. And why aren't we? Because we make too many false assumptions about the results of our current training. When I say we, I mean platoon, company, and battalion commanders.

Here is what I mean by false assumptions. We conduct field training—rifle squad in the attack. Our squad leader does well. He accomplishes his mission, even three or four separate missions. Therefore, we assume he can accomplish any mission he may be assigned. But he never gets out of contact. He never gets more than 500 yards away from the nearest unit.

So how can we then assume he could accomplish an entirely different mission 10,000 yards away from the nearest friendly unit? And what of the three fire team leaders who operated so well under this same squad leader. Take away their squad leader; then what happens? Do they operate their fire teams as well if they're 10,000 yards away? With today's training what it is, I doubt it—and so should you.

Moving closer to this recon capability, I can cite an even more dangerous false assumption. We conduct training, *in the classroom,* on scouting and patrolling. Then we give a written exam which everyone passes. So we say immediately, "Everyone, down to the newest recruit, knows what to do. Theyre all proficient in scouting and patrolling." I doubt this also. Again, so should you unless you have seen them demonstrate this proficiency in the field.

I say we can fulfill the 10,000-yard recon requirement —and we can—with organic troops. In order to do so, however, we must augment our current training techniques and stop making unwarranted assumptions about the results of our training. We must provide training which will develop the ability and confidence of small unit leaders—fire team and squad—to operate independently.

We can start by meeting existing training requirements for fire team and squad leaders. They must be proficient in fire team and squad tactics, map and aerial photo reading. All hands should be proficient in scouting and patrolling and individual movement. They should all know something about combat intelligence and should be in good physical condition. This gives us a common background of individual training and provides a point of departure.

The patrol is ideal for combining all this training. It provides for independent action and is the means by which we would execute our 10,000-yard recon capability. The patrol leader must call upon all his previous instruction to insure the success of his patrol. He must read his map, and read it correctly, to get to his objective and return. His tactics must be sound, especially in the objective area. He must know how to collect information. He must use communications. He must command his patrol in order to maintain control.

Individual patrol members, too, apply all their learning as they go along. Their biggest gain comes from the knowledge that they can go into enemy territory, using their skills to accomplish a particular mission. We need to be careful, however, that the objectives we assign are consistent with the size of the unit involved.

The task of executing such training falls to company and platoon commanders, particularly platoon commanders. Training support requirements such as time,

r Regiments

Our squad leaders do well operating 500 yards out front. But, can they handle the job 10,000 yards away from friendly units?

areas available, ordnance, and aggressors are spelled out in great detail in our manuals and need no coverage here. However, there are two important aspects of training management, under direct control of the platoon commander, which do need further explanation. These are training area selection, and control, evaluation and critique.

The platoon commander should start his preparations for training by selecting routes for each patrol. In doing so, he should avoid the convenience of a map reconnaissance. The patrol routes should be at least 1,000 yards long, one way, and preferably 1,500. They should provide some variety of terrain, both to present a challenge and to assist navigation. Different routes should be available for night patrols.

Problem control and evaluation and critique all should be accomplished through use of an observer-evaluator accompanying each patrol. Because of the importance of proper control and evaluation, only responsible individuals should be assigned to this duty. The platoon commander, platoon sergeant, or in exceptional cases, the platoon guide, should perform this job.

Here's what's required of them. They must be professionally qualified and must be strictly impersonal. They must have made a physical reconnaissance of the patrol route prior to going with the patrol. They start by listening to the patrol order, then accompany the unit on the patrol. It is imperative that the evaluator conduct himself as though he were a member of the patrol. He should interfere with the conduct of the patrol only in case of emergency or if, because of unsatisfactory execution, the patrol loses its effectiveness for instructional purposes. Upon completion of the patrol, the observer accepts the patrol report.

Then comes the moment of truth—the critique. Unless a good critique is held the patrol leader won't know where he stands. He certainly will have no way of knowing what to do to improve his performance. The manner in which the critique is conducted is important also. It must be impersonal, even though directed at one man—and it must be thorough. For every fault found there must be a recommendation for improvement.

The critique should start by answering the question, "Was the mission accomplished?" If not, the factor contributing most to the failure should be noted first. If the mission was accomplished the critique should follow this pattern. First, go over the order, explaining any deficiencies. Next cover the execution; point out any tactical defects. Then cover the techniques employed by the group and selected individuals. There is a time for bouquet-throwing also, and this is it. Just as we point out the flaws, we must bestow praise where warranted. The last step is to explain how improvement can be achieved.

Such training will give infantry regiments a reconnaissance capability out to about 10,000 yards. It will do a lot more, also. It will provide small unit leaders who can be assigned a mission and then execute that mission as assigned. It will provide small unit leaders who are capable of operating independently at great distances from friendly units, whether by our design or the enemy's. It will provide excellent training to aid the physical training program. It will help reduce fear of loneliness on the battlefield for the individual Marine. And it will increase unit integrity and efficiency.

This training should not be restricted to infantry regiments alone. It can be applied by posts and stations security detachments, detachments afloat, and reserve units, either during summer training or on weekends. The area used for training can be either a military reservation, a national park, or any other area not heavily populated. To conduct similar training, a detachment afloat once used Bayview Park in San Francisco, current location of the baseball park used by the San Francisco Giants.

Regular or reserve, FMF or guard detachment, the result will be the same—good leadership training. By assigning the small unit leader a mission and letting him carry it out, we develop his confidence. Confidence leads to forceful action. And from forceful action we get results. What more could we ask? USMC

Former **Capt Pickett** left the Marine Corps last year to become General Manager of the Franklin Amusement Co, Minneapolis. He first enlisted in the reserves in '48, and was commissioned in '53 via OCS. He has attended the Ranger course, and USAF advanced Survival course. During '54 he served as ABC DefO, 9th Mar, and filled the same billet from '55-'57 with the 1stBn, MCTU#1. Mr Pickett feels that present training does not offer the small unit leader the know-how to act independently, a mandatory requirement for the nuclear age battlefield.

THE LAST CONFEDERATE

By Marshall Andrews

When our country divided and fought the bloody war a century ago a new-type of fighting man was born. His flag is furled, his epitaph is written, but he'll be long remembered

(Extracted from the Washington Post)

FURL THAT BANNER, FOR 'TIS WEARY . . .

It is furled now forever, the starred and barred emblem that flashed through the smoke of battle almost a century ago.

For there's not a man to wave it.

The last of that remarkable army which, under its shadow, earned enough glory for a whole nation is gone. The army is disbanded at last.

When Walter W. Williams died at Houston, Tex., blind, deaf and bedridden at 117, the last link with the most impressive and most tragic episode in American history was broken. Of the four million men who wore the blue and the grey, he had outlived them all.

Perhaps it is unimportant where Walter Williams served and what he did. Time and his own iron constitution made him a symbol of what they all were and what they all did. He was the last Rebel.

He was a symbol of something never seen before or since on this continent. He was a symbol of a kind and a scale of devotion summed up simply enough by Gen Robert E. Lee as "unsurpassed courage and fortitude."

Walter Williams was the last of those thousands who bore four years of war in a cause few of them bothered their heads about, who fought because it was the only thing a man could do, who called themselves Rebels although they did not hold themselves to be in rebellion.

Much has been written over the years to explain the Confederate soldier and none of it has explained him. Perhaps he cannot be explained. He was trained only in battle; he was well-led and he was ill-led; he was hungry most of the time; he usually had to take care of himself when he was wounded or sick; he clothed and armed himself from the fat stores of the enemy.

("Just follow along behind here," said Gen N. B. Forrest to a party of recruits who complained that they were unarmed. "We're going to have a fight with them fellows over there and we'll git you some guns.")

He was tall, lean and unbelievably hairy; he was clean-shaven, blond and dashing. He was as cultured as any man of his generation and he was so illiterate he had to sign with his mark.

He could write from his deathbed: "I am very weak but I write to you because I know you would be delighted to read a word from your dying son . . . My grave will be marked so that you may visit it if you desire to do so."

And he could scrawl to a friend even less literate than himself: "I had not a like to a maid out half of yourre words theare is some that I hant maid out yet."

He was profane and the seat of all vices compounded; and his time out of battle could be a long series of prayer meetings. He was impatient of discipline but he was terrible in battle. Despite his devotion to his nebulous cause, he could not understand why he should not go home to put in a crop when no fighting was imminent—and he often did just that, to the inevitable disorganization of the army.

But with all his faults and all his contradictions he could fight. There was never another soldier quite like him. He could march himself out of his shirt and his shoes, live for weeks on a diet of parched corn, and then go into battle and fight like two of anybody else.

His diet was so bad that he was afflicted with wholesale night blindness and he often marched up to battle through the darkness holding onto the belt of the man in front.

He was devoted to his leaders when they led him well and died for them with blind and futile courage when they led him badly. As to his leaders, he was unfortunate in that he lost so many of the best of them in battle. The toll of company officers was high as always, but the remarkable thing was the price he paid in brigade, division, and corps commanders.

In the Army of Northern Virginia alone, this toll was beyond all reason. Stonewall Jackson and Jeb Stuart both were killed in battle.

James Longstreet was lost to the army in the hour of its most travail, terribly wounded in the Wilderness. And before it moved from Petersburg to apotheosis at Appomattox, the blood-red battle shirt of A. P. Hill would flame no more along its front.

With his long legs and his rifle, the Confederate soldier gained victories which numbers and circumstances made most improbable, and he took his victories with a fierce pride which led him on to others. He could be defeated, too, and with all his disheartening disadvantages of poor food, worn-out clothing and hand-me-down weapons, he could rebound from defeat as if he had never heard the word.

On their way south from Gen John B. Hood's annihilating defeat at Nashville, his barefoot troops marching through the ice of a bitter December composed a lugubrious parody of the popular "Yellow Rose of Texas":

And now I'm going southward.
For my heart is full of woe,
I'm going back to Georgia
To find my Uncle Joe.
You may sing about your dearest maid.
And sing of Rosalie,
But the gallant Hood of Texas
Played hell in Tennessee.

There was something about him that set him apart from all other soldiers of all armies. He went into battle with a shrill, unearthly yell which became his trademark. He could bring an immense amount of fire to bear with his muzzle-loading musket. His charges were pressed home with a vigor and ferocity which carried him time after time to incredible victories and cost him grievously in victory or defeat. But his drill was execrable and his line of battle would have made the professional soldier of any European army shudder.

(There is evidence of this independence in battle. Col Walter H. Taylor wrote: "I was wonderfully impressed . . . by the Southern soldier and his independent action in battle as contrasted with the mechanical movement of the machine soldier . . . First one man went forward, then another, then at intervals two or three; then there would be a wavering and falling back when the fire became hot; then there would be a repetition of this; one or two at a time encouraged the others, then small parties advanced, the officers waved their swords and called the men 'forward' and then with a yell the whole line would rush rapidly forward without precision or order, but irresistibly, sweeping everything before them.")

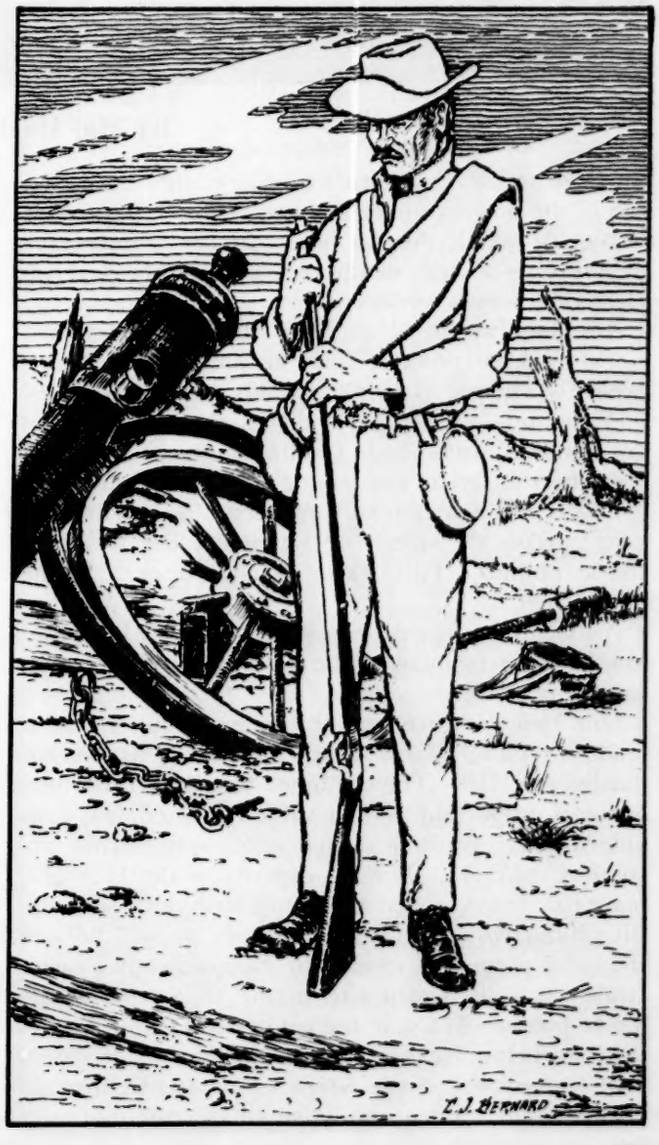
There is nobody living now who remembers the Confederate soldier as he was in his war years. But there are a great many middle-aged men who sat at his knee as little boys and heard from his bearded lips how it was in the great old days. There are many who saw him at his annual reunions in the hot and somnolent Southern towns, ancient and feeble, but wearing his gray uniform and brandishing his stick with an air that brought Chancellorsville back again and relegated Appomattox to the limbo where it belonged.

He is gone at last. And perhaps his epitaph was spoken by one of his own, who stood in the last battle line of the Army of Northern Virginia so badly wounded that he could use neither of his arms. His brigade commander rode by, saw him standing there and said:

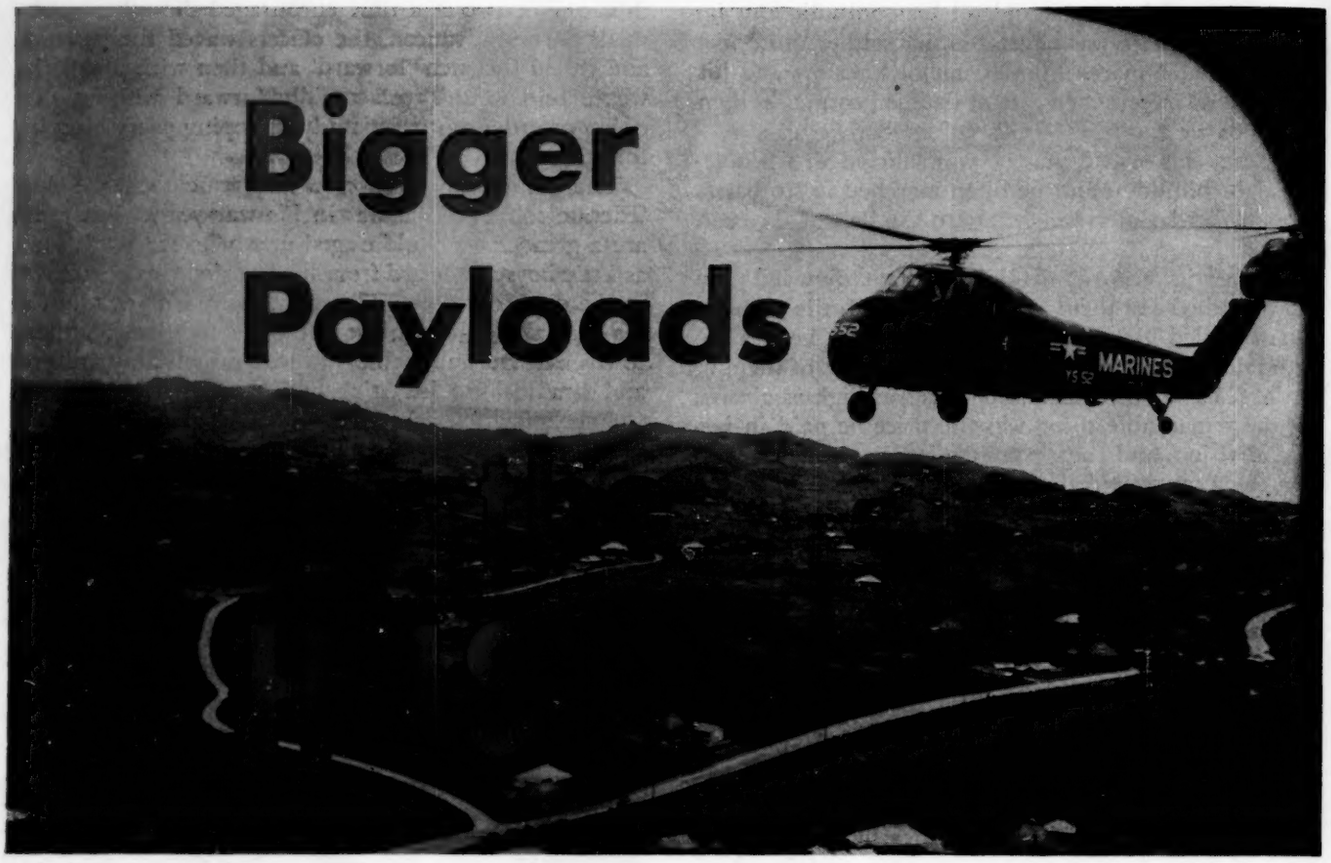
"What are you doing here? You can't even hold a gun."

"No sir," the man replied, "but I can still yell."

USMC



Bigger Payloads



By Maj Herbert A. Nelson

HOW TO LIFT A BIGGER PAYLOAD WITH THE HUS IS one of the major problems facing helicopter squadrons today. Although the machine can lift a respectable weight, only a small margin remains for net payloads. Here's the way it works out:

The basic weight of the HUS in its present configuration is 8,560 pounds. The maximum gross weight presently allowed is 12,300 pounds. The difference—3,740 pounds— is the payload that can be carried under standard atmospheric conditions. From this figure must be subtracted the weight of oil, fuel, and crew members. The weight of these items, minus the crew chief, makes the operating weight of the helicopter 10,060 pounds. This leaves a payload of 2,240 net pounds net.

Although the figures seem disappointingly low, much can be done to increase the helicopter's inherent lift capability.

One area in which significant improvements can be made is removal of certain non-essential items that now burden the HUS. The combined weight of these items is out of proportion to their value. Granted, it is desirable to carry equipment that offers convenience and comfort for crews. The lift capacity of the HUS is so marginal, however, that each small item not essential to lift productivity should be removed. As will be seen, the 713.6 pounds of extra gear each helicopter carries represents a significant part of the HUS lift capacity. To be precise—31.6% of the net payload.

Listed below are several items that should be considered for removal. Some weigh an apparently insignificant amount. The cumulative totals are impressive, however, in view of the large numbers and the fast cyclic times in which helicopters operate.

Cabin Emergency Escape Windows (8.5 pounds)—On over-water flights the two emergency escape windows located in the cabin compartment are removed but are often stored in the plane. Removal of these windows for over-water flights is necessary, but storing them within the helicopter reduces the payload by 8.5 pounds. During a 200-sortie day, a total of 1,700 pounds of escape windows are carried into the landing zone.

Tool Box (Average 39.7 pounds)—Each crew chief has a tool box for maintaining his helicopter. The box is generally carried in the plane. This location is satisfactory for routine training flights, but the payload for troops or cargo must be reduced a similar amount to make allowance for the extra weight. For a 200-sortie day this small additional weight amounts to 7,940 pounds of tool boxes lifted into the landing zone.

Winch and Hoist (149 pounds) – Each HUS is equipped with a winch and hoist which provides an outstanding capability for Search and Rescue and similar missions. The primary mission of the HUS, however, is to lift troops and cargo. At no time does a need exist to employ the hoists of all HUS participating in a lift. Therefore, this item should be removed from all but 20 per cent of the HUS helicopters assigned to HMR squadrons. This ratio will provide adequate helicopters with hoists to conduct Search and Rescue missions that might come up. If for some reason a squadron believes it must retain the hoists so it will have a full hoist capability, the removed equipment can be stored in pack-up gear. Removal of the item is a

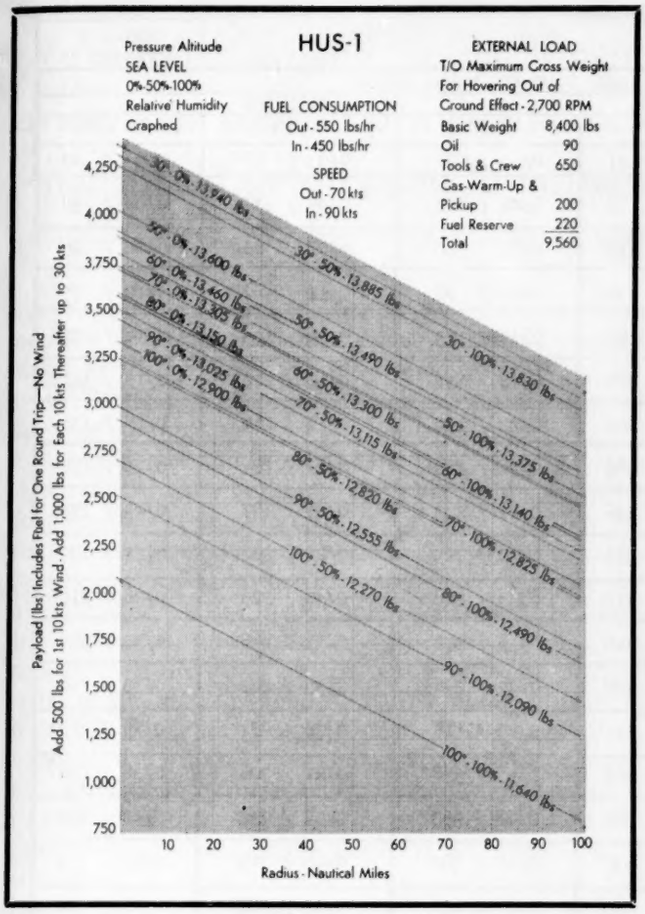


Chart 1

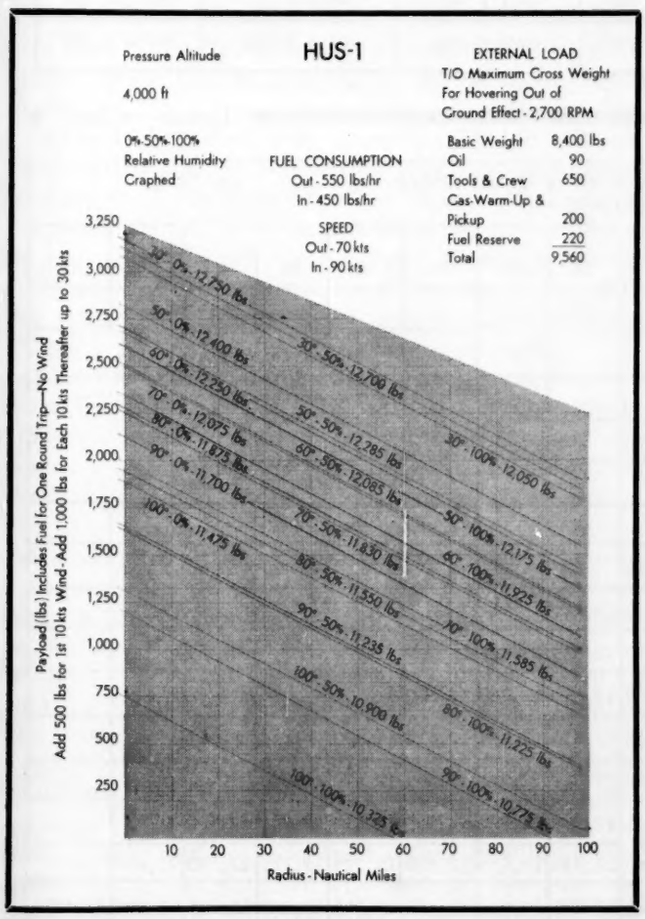


Chart 2

WHAT IS HUS NET PAYLOAD?

What load can a helicopter carry? It varies. And it goes down drastically as both temperature and humidity go up.

That's why Maj Nelson's ideas are particularly timely to this issue's look at China and Southeast Asia. A quick example:

The HR2S is rated to carry 5,800 pounds; the HUS 3,500. In hot, humid Southeast Asia (assume 90° F, 50% relative humidity, Zero Wind, and 50 NM radius at sea level) the HR2S can carry externally only 2,160 pounds. The smaller HUS can now carry 2,350.

This sort of thing gives planners three frustrating choices: overload, underload, or reshuffle everything at the last minute. It can also lead to design of "helicopter-transportable" gear that can't be lifted in normal operations.

The Marine Corps Landing Force Development Center is doing something about the problem. Charts 1 and 2 come from an LFDC project which set forth in detail last year just what the HR2S and HUS **can** lift under given conditions. LFDC has recommended that current and future vertical lift performance be prescribed and tested in similar terms. Also, further investigation of flight characteristics for internal loads is desired.

This was only the first step. The charts don't take into account complete planning for wind, fuel, detailed helicopter weights, or altitude variations between take-off and landing areas. All these have been computed and converted into handy pilot's-knee-pad-size charts and computing forms (See Charts 3, 4, 5 next page). A kit for checking temperature and humidity is also under test (See Figure 1 next page).

Using the new data pilots can figure accurate weights quickly. More important, using average data from the National Weather Records Center, planners can compute realistic loads for any part of the world. The procedure "cranks in" probabilities. An S-4 could be 99% sure that, for example, palletized 2,000-lb loads could be externally carried by HUS in Area "X." He'd also know that there'd be a 30% chance the HUS could carry 200 pounds more. He could palletize some extra 100 or 200-lb loads.

Complete information on this subject is scheduled for early distribution to Fleet Marine Forces by MCLFDC.

If loss of helo-lift disturbs you, there's one note of cheer for the future. Gas turbine helicopters are not affected by humidity. It's expected that the next "generation" of Marine Corps choppers will have turbines.

TIME/FUEL REQUIREMENTS

HUS-1 INBOUND

Range in N. M.	TIME (HRS & MIN)/FUEL (LBS) @ 90 KTS & 450 LBS/HR						
	No Wind	HEADWIND			TAILWIND		
		10 KTS	20 KTS	30 KTS	10 KTS	20 KTS	30 KTS
5	0/03 / 23	0/04 / 30	0/04 / 30	0/05 / 37	0/03 / 22	0/03 / 22	0/03 / 22
10	0/07 / 54	0/08 / 60	0/09 / 67	0/10 / 75	0/06 / 45	0/05 / 37	0/05 / 37
15	0/10 / 75	0/11 / 83	0/13 / 97	0/15 / 112	0/09 / 68	0/08 / 60	0/08 / 60
20	0/13 / 98	0/15 / 113	0/17 / 127	0/20 / 150	0/12 / 90	0/11 / 82	0/10 / 75
25	0/17 / 128	0/19 / 143	0/21 / 154	0/25 / 188	0/15 / 113	0/14 / 105	0/13 / 97
30	0/20 / 150	0/23 / 172	0/26 / 195	0/30 / 225	0/18 / 135	0/16 / 120	0/15 / 112
35	0/23 / 172	0/26 / 194	0/30 / 225	0/35 / 262	0/21 / 158	0/19 / 144	0/18 / 135
40	0/27 / 202	0/30 / 225	0/34 / 255	0/40 / 300	0/24 / 180	0/22 / 164	0/20 / 150
45	0/30 / 225	0/34 / 252	0/38 / 285	0/45 / 336	0/27 / 202	0/25 / 187	0/23 / 172
50	0/33 / 248	0/38 / 285	0/43 / 323	0/50 / 375	0/30 / 225	0/27 / 202	0/25 / 187
55	0/37 / 278	0/41 / 308	0/47 / 354	0/55 / 412	0/33 / 248	0/30 / 225	0/28 / 210
60	0/40 / 300	0/45 / 334	0/51 / 383	1/00 / 450	0/36 / 270	0/33 / 246	0/30 / 225
65	0/43 / 323	0/49 / 368	0/56 / 420	1/05 / 488	0/39 / 294	0/35 / 262	0/33 / 246
70	0/47 / 354	0/53 / 398	1/00 / 450	1/10 / 525	0/42 / 315	0/38 / 284	0/35 / 262
75	0/50 / 375	0/56 / 420	1/04 / 480	1/15 / 562	0/45 / 338	0/41 / 306	0/38 / 284
80	0/53 / 397	1/00 / 450	1/09 / 516	1/20 / 600	0/48 / 360	0/44 / 330	0/40 / 299
85	0/57 / 427	1/04 / 429	1/13 / 546	1/25 / 638	0/51 / 382	0/46 / 345	0/42 / 314
90	1/00 / 450	1/08 / 510	1/17 / 575	1/30 / 675	0/54 / 405	0/49 / 367	0/45 / 336
95	1/03 / 472	1/11 / 532	1/21 / 606	1/35 / 710	0/57 / 427	0/52 / 390	0/47 / 352
100	1/07 / 502	1/15 / 562	1/26 / 643	1/40 / 750	1/00 / 450	0/55 / 412	0/50 / 375

Above—Chart 3 **Below—Chart 4**

HUS-1 — MAX. GROSS WEIGHT FOR HOVER OUT OF GROUND EFFECT (NO WIND - 2700 RPM) — SEA LEVEL

WET / DRY	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
30	13,820	13,775														
35	13,765	13,720	13,660													
40		13,715	13,650	13,600												
45			13,580	13,525	13,465											
50			13,540	13,480	13,410	13,350										
55				13,430	13,370	13,295	13,220									
60				13,400	13,325	13,265	13,185	13,100								
65					13,310	13,245	13,160	13,075	12,970							
70					13,270	13,210	13,120	13,030	12,935	12,825						
75						13,170	13,075	12,995	12,890	12,780	12,660					
80						13,120	13,035	12,955	12,850	12,735	12,610	12,490				
85							13,025	12,950	12,840	12,720	12,595	12,470	12,310			
90							12,980	12,905	12,800	12,680	12,555	12,430	12,265	12,100		
95								12,860	12,750	12,635	12,510	12,375	12,215	12,050	11,850	
100								12,825	12,725	12,610	12,480	12,345	12,185	12,015	11,805	11,590

NOTE: Do not interpolate. Use next highest value of dry and wet temperature for conservative gross weight.

UNITS: Temperature - °F
Weight - lbs

We're flying around too much extra gear on our HUS, says this veteran aviator. He comes up with an item by item, pound by pound rundown on what should be dropped to increase our helicopter assault capability

simple operation requiring the removal of three bolts, and the disconnecting and capping of three hydraulic lines. With the winch and hoist removed from the aircraft, 29,800 pounds of additional cargo can be lifted into the landing zone on a 200-sortie day.

Cabin Heater and Internal APU (155.5 pounds)—The APU aboard each helicopter is a luxury not essential to operation of the aircraft. Its primary purposes are to provide power to operate the 50,000 BTU cabin heater and to furnish auxiliary power for starting the aircraft engine. The power unit offers some advantage but imposes an unrealistic weight penalty which, when totaled with the cabin heater, reduces the lift productivity of the HUS by about 7%. If a power unit is required in the landing zone, a small APU can be lifted in when the helicopter mechanic arrives with his tool kit. Furthermore, pilots must dress lighter than usual to take advantage of the heating system; otherwise the cabin heat is uncomfortably warm. Heavier dress would eliminate the need for the heater and enhance the chance of crew survival in the event of a helicopter crash during cold weather conditions. Also, assault troops must dress for the existing weather in the objective area. On a 200-sortie day the weight allotted for lifting cabin heaters and APUs amounts to 31,100 pounds.

Mark 12 Life Raft (140 pounds)—The life raft carried aboard the HUS is excess gear that contributes nothing to the purpose for which it was intended, yet consumes about 6% of the net payload. Its purpose is to provide a life raft for personnel aboard a ditched helicopter. Past experience has demonstrated that during a ditching, however, the life raft is more of a hazard than a help and usually sinks with the aircraft.

Life rafts should be carried exclusively by Search and Rescue helicopters during the ship-to-shore movement. This will insure that a raft can be dropped to survivors within a few minutes after ditching. In the meantime, ditched personnel can maintain flotation by triggering the CO_2 bottles installed in the life vests. Therefore, safety is not sacrificed. An additional benefit derived from carrying rafts aboard only Search and Rescue aircrafts is the increased tactical lift capability of the helicopters. With life rafts aboard, 28,000 pounds of equipment that contributes nothing to the tactical build-up or safety of heliborne personnel is carried to the landing zone on a 200-sortie day.

(*OPNAV Instruction* 3710.7A requires that life rafts of sufficient capacity to accommodate all passengers and crews be carried in aircraft when flights are made beyond gliding distance from land. Undoubtedly, this requirement is valid for fixed wing aircraft. However, the radical difference between fixed wing operations and

HUS-1 COMPUTATION CARD

(1) Takeoff pressure alt _____ft Wi[illegible] _____kts
(2) Takeoff temp: Dry _____°F (Add 500 lbs for first 10 kts and 1,000 lbs for each 10 kts thereafter up to 30 kts)
Wet _____°F
(3) No wind H.O.G.E. max. gross (from table) _____lbs
(4) Wind correction (+) _____lbs
(5) H.O.G.E. max. gross w/wind (14,000 lb max.) _____lbs
(6) Operating weight (basic wt plus crew, oil & [illegible]els) (-) _____lbs
(7) Payload plus fuel _____lbs
(8) Range out _____NM
(9) Time/fuel out ..... _____min/_____lbs
(10) Range in _____NM
(11) Time/fuel in ..... _____min/_____lbs
(12) Fuel for warmup, pickup & reserve (+) _____lbs
(13) Total fuel required _____lbs
(14) Total fuel aboard (gauge reading) (-) _____lbs
(15) Payload out _____lbs
(16) Landing pressure alt _____ft Landing wind _____kts
(17) Landing temp: Dry _____°F (See note above)
Wet _____°F
(18) Landing no wind H.O.G.E. max. gross (from table) _____lbs
(19) Wind correction (landing) (+) _____lbs
(20) Landing H.O.G.E. max. gross w/wind _____lbs
(21) Fuel out (+) _____lbs
(22) *Max. gross permitted at takeoff because of landing conditions _____lbs

* If this weight is less than line (5) above, substitute this weight in line (5) and recompute payload.

Chart 5

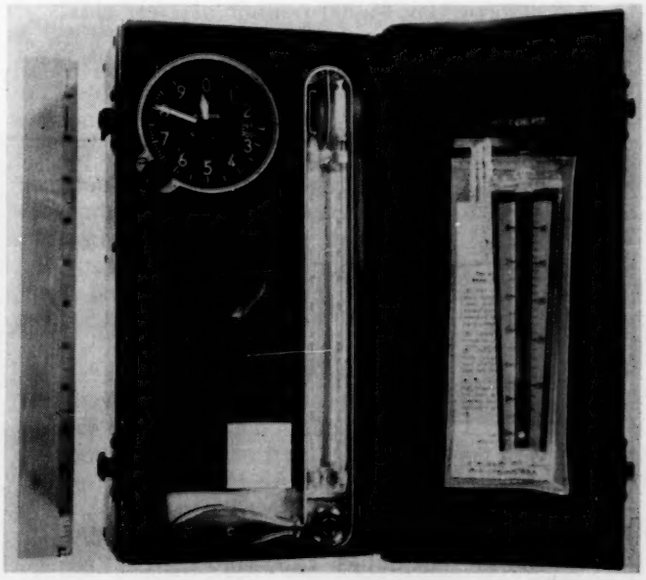


Figure 1—Temperature & Humidity Kit

Knock off the non-essentials and fly in 142,720 pounds of fighting Marine instead

the helicopter ship-to-shore movement, with its built-in Search and Rescue safety factor, should provide adequate justification for modifying the requirement. *OPNAV Instruction* 3710.7A could appropriately be modified as follows: "Life rafts of sufficient capacity to accommodate the passengers and crew shall be provided in all aircraft when flights are made beyond the gliding distance of land. On helicopter flights, exception to this provision may be authorized by competent authority, providing adequate Search and Rescue helicopters are on station.")

Crew Chiefs (180 pounds)—A crew chief is carried on most external lifts in the HUS. His primary function is to raise and lower the external cargo sling with a small rope in the cargo compartment. The co-pilot from his seat can do the same job. Carrying a crew chief to raise or lower the sling reduces the payload by 180 pounds, or 8.5% of the payload. This alone is not much weight, but again the cumulative effects are startling. On a 200-sortie day 36,000 pounds of crew chiefs are carried into the landing zone.

Catch-All Bag (40.9 pounds)—Each helicopter usually carries a canvas bag to hold miscellaneous items like rags, rotor blade covers, grease guns, etc. These items are necessary for servicing the helicopter when it isn't flying, but serve no useful purpose on flights. On a 200-sortie day 8,180 additional pounds of troops or cargo must be subtracted from the net results of the helicopter build-up ashore to allow for the weight of this bag.

The table below summarizes how extra items on a helicopter can materially affect the ship-to-shore build-up of troops and cargo for a 200-sortie day. The 142,720 pounds of parasitic weight lifted to the landing zone must also be lifted back on return trips. In addition, the 713.6 extra pounds on each plane reduce air speed and increase fuel consumption because of the higher power settings required to lift the extra weight on the return trip from the landing zone.

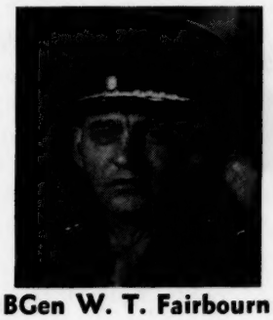
ITEM	Weight	Cumulative Weight
Emergency hatches	8.5	1,700
Tool box	39.7	7,940
Catch-all bag	40.9	8,180
Winch and hoist	149.0	29,800
Cabin heater and APU	155.5	31,100
MK 12 life raft	140.0	28,000
Crew chief	180.0	36,000
TOTAL	713,6 (lbs.)	142,720 (lbs.)

These figures show conclusively that the total weight of all unnecessary items carried aboard HUS, combined with the helicopter's fast cyclic rate, has a major impact on the rate of build-up ashore in amphibious operations. Upon removal of the non-essential items listed (and the list is not necessarily complete), lift capabilities will approach those claimed by the manufacturer.

Such an increase in the HUS net payload could mean the difference between success or failure in "for real" helicopter operations against a shooting enemy. USMC

Maj Nelson has sweated-out the net-payload problem of chopper flight for lo, these many years. During his 18½ yrs in Mar Cor-Avn, he has accumulated over 5,350 hrs of flight time, 1,500 in helicopters. Beginning his career in "42, Aviation Cadet at Corpus Christi, he received his commission and from '43-'45 saw duty with fighter and transport sqdns in the Pacific. Holding the DFC and seven Air Medals, Maj Nelson has served as AsstOpnOff, New River ('53-'55), Asst G-2 Off, El Toro ('55-'57), and SqdnOpnOff, MAG-16 ('58-'59). Present duties: ExO, VMO-1, New River.

From the Director



BGen W. T. Fairbourn

MARINE CORPS RESERVE

Grass root forces must find pleasure in their work. Properly done, it's all the time they've got.

NOT LONG AGO, IN A MIDWESTERN COMMUNITY, A group of prominent businessmen asked the Inspector-Instructor of a Marine Corps Reserve unit the best way to clear and level a tract of wooded, rolling land the town wanted to develop as a recreation area.

The I&I of 3dEngCo, USMCR, not only had the answer, he provided the ways and means to do the job. The fact that the unit was an engineer company admittedly served to help the cause. But it remains that the I&I and his fellow Marines, regular and reservist alike, have firmly cemented their relationship with citizens of the community.

This illustration, if it proves nothing more, serves to demonstrate the ideal situation every Inspector-Instructor and his staff hope to develop. Some do; some don't. On the whole, however, more do.

One salient fact that controls the action of an Inspector-Instructor is the varied responsibilities he assumes the moment he begins his tour of duty. As noted in a briefing sheet given to I&I assignees: "You will find this type of duty radically different from anything you have previously encountered with regular units of the Marine Corps."

How true!

The officers and men selected to serve on these staffs are not picked at random out of a hat. We know from past experience, whether we like to think about it, or not, that just anyone can't fill the bill. Not only does a staff—numbering up to a dozen regular Marines—have the primary task of advising anywhere from 100 to 400 reservists in a rigid training program, but they automatically assume a myriad of unrelated and sometimes intangible projects that go along with the job.

"As an *Inspector* you set the standards that are to be met by the unit; as an *Instructor* you will assist the unit in meeting those standards." So goes the briefing sheet. Three and a half pages of small print follow.

One desired attribute of an I&I and his staff is an extrasensory perception that tells them how to conduct business with city officials, clergymen, educators, and newspaper, radio and TV reporters. And parents. They must scan Marine Corps directives, daily newspapers and magazines, with an eye toward retaining anything that might be a subject for discussion, and as the launching pad for one of the many talks they are asked to give.

Training is, and must be, the prime consideration of any I&I regardless of how many other hats he wears. But, even with the ideal situation, where the commanding officer and his fellow reservists have enough time to actually run the unit, the I&I staff has little spare time.

Recently we received some representative reports from I&Is around the country which told how they spent their time each month. One rifle company (fairly typical) found that the I&I staff (one officer and seven enlisted, in this case) were putting in 156 hours on the job. That breaks down to about a 55-hour week.

Here's how they spent their time:

- General supervision of unit and I&I staff personnel administration
- Training unit administrative personnel
- Public information
- Liaison with local Marine recruiters
- Visits to high schools
- Processing of new reservists
- Maintenance of training aids, equipment and facilities
- Police and maintenance of training center
- Purchasing
- Fiscal records and reports
- Clothing records, reports and requisitions
- Maintenance of publications
- Property accounting
- Transportation
- Personnel records
- Preparation of pay data
- General correspondence and filing
- Vehicle maintenance
- Ordnance maintenance
- Medical records and reports
- Medical assistance to reservists and I&I staff

In prefacing his report, the I&I stated that less than five percent of his own duties involved matters not bearing directly on the operation of the reserve unit or its training center.

"You will find this type of duty radically different . . ." and consequently a challenge to your ability and ingenuity. USMC

Misdirectives

"If we can read it, we can do it" is sound advice. Trouble is, reading some directives can be hard on the eyes and brain cells. Why not issue 4-S orders?

By MSgt M. L. Taylor

A WISE MAN ONCE SAID, "IF NO ONE SPOKE UNLESS HE knew exactly what he was talking about, a deathly silence would descend upon the earth." The same philosophy should also apply to Marine Corps directives. They should either make exact sense or they shouldn't be issued.

The purpose of a directive is to inform or direct, not confuse. Some Marines think an order is adequate if it can be understood. That's not the case. Orders should be written so they can't be misunderstood. Those that can be misinterpreted, will be.

Ideally, Marine Corps directives should be interpreted by all Marines, at all times, in exactly the same way. This would create the standardization that has thus far eluded us. So long as the possibility of broad interpretation exists, however, mis-interpretation will be the result.

In general, response to Marine Corps directives can be predicted by two simple formulae:

- Formula #1:
  Proper Interpretation = Standardization.
- Formula #2:
  Doubt = Non-Compliance.

Misinterpretation results in endless reams of paperwork emanating from various headquarters to correct errors that should never have occurred in the first place. Proper preparation of governing regulations, on the other hand, would make correct procedures the rule rather than the exception. Considered singly, the cost of correcting administrative errors is negligible. Collectively, they tax an already overtaxed Marine Corps budget.

Every officer and NCO reading this article can cite examples of administrative errors resulting from misinterpretation of directives. There is no real reason for this to continue. Each time a new order is published, however, we face the same problem of conflicting interpretations of its intent.

Correctly written directives leave no room for doubt. It is not necessary that they be composed in third-grade language. Neither should they be written for college graduates. Interpretation of a directive with a dictionary in one hand and the order in the other is ridiculous. Directives should be composed in clear, concise, everyday Marine Corps terminology that all hands will interpret in the same way.

Here is an example, quoted from a published directive, of how not to do it:

"If travel was by other than a usually traveled route allowances for the proportion of the official distance of the ordered travel bearing the same ratio to the total distance of such travel as the official distance to the point where the orders were cancelled or modified while in a travel status bears to the total of the official distances from the old station to the point orders were canceled or modified and from that point to original destination."

This is a single sentence—79 words (count 'em) of mass confusion with no punctuation to assist in clarification. Obviously, writing of this kind can be understood only by Marines with Master's Degrees.

Directives should first of all be written or constructed objectively. They should be composed in much the same way as an essay. First, decide what is to be said, then determine the purpose to be served by the order itself and the end result desired. Once these factors are established a rough draft should be prepared, corrected, and re-written in the final form. These steps will eliminate many of the changes and errata resulting from misinterpreted orders.

This story was attributed initially to an Admiral who always had an apprentice seaman on his administrative staff. When asked what the seaman's duties were, the Admiral would reply, "After I have an order written I give it to this seaman. If he questions it, I have it rewritten. If he understands it, I publish it."

Some writers think we impress our superiors, or our juniors, with big words and long involved sentences. We think the more we say and the more elaborately we

say it, the more distinguished our directives will be. Nothing could be further from the truth! The Marine Corps should use good plain directives: 4-S Orders.

They should have these charactetristics:

- Shortness—say no more than needs to be said.
- Simplicity—use short words, short sentences, and short paragraphs.
- Strength—use concrete, specific words.
- Sincerity—leave no doubt as to the end result desired.

Aside from poor writing and construction, there is another important reason for widespread non-compliance with directives. This is the persistence of the old "die-hards" who continue to do it *their* way. Why can't the regulation way be their way? The only right way is the one prescribed by higher authority. Deviations have become so common, however, that prescribed methods often can no longer be recognized. A patient would certainly follow his doctor's prescription for medication, wouldn't he? The same principle should apply here. We have no "do it yourself" medical kits.

The Marine Corps no longer has a place for the old administrator who could quote certain sections of the Marine Corps Manual verbatim. This was a part of the smaller Marine Corps. Now we must know how to conform to regulations, not memorize them.

The Personnel Records and Accounting Manual (PRAM) is an example of a mis-used directive. Entries are generally made in service records from memory. Administrators seldom refer to this publication when making entries on certain pages of the SRB. Yet PRAM governs such actions.

The affixing of a signature in the SRB is another point which is constantly abused. Instructions are specific as to where and how signatures should be entered. Yet SRB's can be audited and errors of this type located. Why? Because too many individuals feel the regulation way applies only to those with no individuality.

Another example: pay is often needlessly delayed or incorrectly disbursed because regulations are not properly interpreted. This results either in overpayment or underpayment and is a headache either way—both to the Marine involved and to disbursing personnel who must set the record straight.

The audit of service record books is another major area of non-compliance. This is a delegated responsibility of the First Sergeant, Administrative Chief, and the auditing officer. Often, however, the same errors in an SRB go uncorrected year after year. If we find these mistakes and don't correct them, why do we have PRAM and the Marine Corps Manual? A good, conscientious audit of an SRB is a rarity today.

"I don't care what the regulations say. We'll do it this way!" Do these words sound familiar? The expression is heard so often throughout the Marine Corps these days that it's beginning to be the rule rather than the exception.

One of the main reasons this short cut method has gained such a toe-hold is that is is actually being taught at the basic level. Juniors are being taught the short cut instead of the regulation.

In Marine Corps administrative schools it is extremely difficult to teach the regulation way. Instructors are faced with the "do it my way" policy. How can they fight such a problem? They have the stated policy to back them up, but if this policy isn't enforced its effectiveness is lost. The school, then, doesn't change the student's way of doing things. He goes back to his unit and continues as before.

The sad part is that some of the junior students then think the "my way" method is better and originate it in their units also.

Examples of non-compliance with Marine Corps directives can be cited endlessly. The situation must be corrected. But don't wait for higher headquarters to do it—do it yourself.

Two things need to be done. First, write your orders in such a way that they can't be misunderstood or misinterpreted; second, insist on strict compliance, to the letter, with directives you originate and those issued by higher authority.

By originating and complying with orders in this way, we will have taken a long step toward a unified, standardized administrative system—and a better Marine Corps.

USMC

MSgt Taylor, an ardent golf, hunting and fishing enthusiast, enlisted in '41. During WWII, he served with the 2dMarDiv on Guadalcanal, Tarawa, New Zealand and Samoa as a MG Sqd Ldr. Hospitalized in '45, he recuperated and became a DI, PISC, in Jan '44. Since his tour as a DI, MSgt Taylor has served on recruiting duty, Nashville, Tenn, and as a 1stSgt aboard USS New Jersey and Northampton. He is presently holding a billet as an instructor, Sergeants Major Course, Parris Island, S. C.

★ ★ ★ ★

A Base Point's Revenge

I HAD THE MIL SCALE OF MY FIELD glasses carefully focused on the Saipan trail junction that was to be the base point, waiting for fire for effect. The radio operator yelled, "On the Way." And a black cow walked slowly past. On the third round she bucked, jumped, and took off.

Two days later 3/6 moved up. My trip from the company CP to the OP was being stimulated by a persistent sniper, when out of the sugar cane charged a black cow.

Instinctively, I threw out a stiff arm and swerved right—right into a piece of ankle-high comm wire. As map case, field telephone, field glasses and I rolled our separate ways, I glimpsed on the cow's off haunch fresh shell wounds.

Anonymous ($15.00 to Navy Relief)

OBSERVATION POST

This department is for new, constructive ideas. They may be controversial; they must be short. Payment at regular rates on publication.

One Book for Aviation

By LtCol G. C. McClure

TWO IMPORTANT AVIATION PUBLICATIONS need a complete going over. For many years, AIRFMFLANT and AIRFMFPAC have each published a Training and Readiness Manual, the "Good Book" for training pilots and other aviation personnel. These 300-odd-page publications have a common goal: the ultimate in pilot training doctrine. Yet, their training requirements, pilot qualifications, and procedures are sometimes miles apart.

This is particularly confusing to the neophyte Marine aviator. He may be trained under the FMFLant Manual on the East coast, qualified in all respect as a Marine Attack Pilot and designated as a flight leader. He then arrives on the West coast in an AirFMFPac squadron and finds that according to its T&R Manual he is barely qualified to fly solo.

Consolidation and standardization of the two Training and Readiness manuals has long been a pet subject of many aviators but until recently no official action had been taken. However, correspondence has been initiated. There is hope.

There have been two primary arguments against consolidation and standardization of the two manuals:

First is the relationship of Marine Corps Aviation units with the Navy Fleet Air Commands.

Second, who is responsible?

Naturally, for Marine aviation to serve in its primary role of providing close air support for Marine Corps ground forces, and yet be able to go aboard Navy carriers and operate with Navy squadrons, some Navy guidance is necessary. This guidance is given in various NWPs and other Navy publications which apply to training of all Naval aviation units, including Marine Corps units. And, in both the FMFLant and the AirFMFPac Training and Readiness manuals, these broad guidelines have been incorporated.

Responsibility for the preparation and publication of an overall Training and Readiness manual should pose no particular problem. For many years the Marine Corps Schools at Quantico, Va., have prepared and published Landing Force Manuals. Use of Marine Corps aviators already assigned, or creation of an aviation readiness section to prepare and publish a consolidated Training and Readiness Manual could solve this problem. Or, the readiness section in DivAv could be augmented.

Standardization of Marine aviator's training methods would offer many benefits:

- First, transferred pilots won't need an awkward "re-training" program. This will increase the overall combat readiness of Marine squadrons, eliminate three to six months of "re-training."

- Furthermore, if the pilot is transferred before he completes the training syllabus the squadron commander of his new unit will know exactly where the pilot stands in the training program. With very few exceptions, flying an F8U in California varies but little from flying an F8U in North Carolina.
- Elimination of duplication will result in a savings of personnel.
- Additional savings would come from cost of materials used in publishing the manuals. There can be no doubt that publishing a thousand copies of one manual is cheaper than publishing 500 copies each of two manuals.
- But perhaps one of the greatest advantages of a single Training and Readiness manual will be the speed with which new training methods may be adopted. With the receipt of new aircraft, new training methods must be devised. These are usually developed by experimentation and research by tactical Marine squadrons. Under the present system, squadrons on one coast may be training under a new and highly effective training method while squadrons on the other coast may still be operating under an old and less effective system.

With the adoption of the "level readiness" training program in the Second Marine Aircraft Wing on the East coast, opponents of the consolidated Training and Readiness Manual say standardization is impossible. This is far from the truth. Pilots on both coasts now receive about the same amount of overall flight hours during the training process. It is merely the method of application of these flight hours during the training process that varies. Whether AirFMFPac squadrons adopt the "level readiness" training program now in effect in the Second Marine Aircraft Wing or retain the "phase training" program would have no effect on the publishing of a standardized Training and Readiness manual. The amount of training provided will remain the same.

A conference of experienced aviators from the FMFLant and AirFMFPac tactical squadrons should be able to produce a standardized Training and Readiness Manual far superior to those presently in existence. After publication, changes recommended by tactical units could easily be handled by a central agency.

Training is the very basis of combat readiness. To be able to do it faster, cheaper, and more effectively should be the goal of every Marine. USMC

G-1, FMFLant
Norfolk, Va.

Pass the Ammo — to a Specialist

By CWO C. A. Holmes

EXCEPT AMONG ORDNANCE PERSONNEL there seems to be a lack of understanding throughout the Marine Corps today on what Marines in 2300 field do. And what they can do. Both the Ammo technician (2311) and the EOD (2336) are in the 2300 field; there is considerable differences in the duties and capabilities of the two.

Officers and enlisted men in the ammo field are trained to know about ammo; how to store it, how to handle it, how to ship it via truck, boat, plane or Ahkio. They also know about warheads for nuclear and special weapons.

Today, Ordnance School, MCS, Quantico, Va., has a new academic look. The Basic Ammunition Technician Course trains selected Marines in methods of handling, storage, and transportation of ammo. The Advanced Ammunition Technician Course trains selected Marines to supervise, coordinate and manage ammo dumps. The course provides ammo technicians with knowledge of characteristics, functioning, safety precautions, packing, and surveillance procedures of current and R&D items of ammunition. In brief, a Marine must be a well qualified ammunition technician or a graduate of the Basic Course before he is eligible for the Advanced Technician Course. Experience has shown that Marines selected for these courses must be "high caliber" or they don't go far.

Today, MCO 8010.1A lists 372 items of ground ammo used in planning and supporting FMF combat operations. Anyone familiar with this order (and MCO P8011.4) knows that Class V Logistic Procedure with all its problems of storage, compatibility, transportation, issue and receipt of ammo is a science. The Ammunition Officer (who may have a 2040 secondary MOS) and the 2311 are the Marines to do this type job.

Ammunition personnel are taught management principles involved in storing and handling Class V materiel at permanent and field dumps. Several of

the large NADs storing Marine Corps ammo have one 2040 and one 2311 to assist in shipping, storage, receipts, issue, maintenance, renovation and modification of Marine Corps ammo. These Marines provide technical information as required and keep a sharp eye on the code plan ammo stored at NAD's. The Navy and Marine Corps have found that this is a very satisfactory arrangement especially during times of emergency.

I believe everyone in a responsible position in the Marine Corps is aware that if an accident or malfunction involving the use of ammunition occurs (during training or combat) the CO must immediately report the facts in accordance with MCO 8005.67 SUP 2B. Here again your ammo Marines are useful. Their technical knowledge of ammo and fuzes can help the investigating officer. Also. actual instrumentation is required in same cases in making a detailed report of the accident or malfunction. Why?

Many malfunctions and accidents are blamed on faulty ammo. Hasty conclusions often result in the suspension of serviceable ammunition for long periods of time due to erroneous appraisal of causes. The ammo officer or technician can help conduct the investigation, may prevent serviceable ammo from being suspended. Experience has shown that ammo is sometimes suspended and later the cause is traced to human error.

Your ammo and EOD personnel are not just Marines with "strong backs and weak minds." They are trained specialists each of whom has a specific job to do. The ammo officer and technician must know ammunition from the .22 caliber cartridge to the 762mm rocket. Their library consists of at least 39 publications listed in MCO 8005.67 SUP 1B. There are others they would do well to have around.

The moral of this: Proper assignment of Marines in the 2300 field will bring about more efficient operations and maybe save some lives to boot. USMC

Ordnance School
MCS, Quantico, Va.

Saving Time, Words & Tempers

By Col R. D. Wright

US NAVAL REGULATIONS, A MOST authoritative document and quite directive in nature, states that a commander shall be responsible for the satisfactory accomplishment of the mission and duties assigned to his ocmmand. Another publication of equal stature, The Marine Corps Manual, relates with stark clarity that the commander of an organization is its controlling head and he alone is responsible for all that his unit does or fails to do.

These two paragraphs from highly authoritative sources are directive in nature, should serve as the final pronouncements as to who is responsible for carrying the ball. *Then*—why do orders from the desks of HQMC sections down to the lowest headquarters that writes orders to subordinate commands, time and time again, include in the order a statement that pinpoints the commander as responsible for its execution? These statements have many variations and cover accomplishments in all fields, such as personnel, training, and supply.

For example (and these are just a few taken from Marine Corps Orders):

- "Commanding officers will be responsible for the unit training of his command."
- "Commanding officers are responsible that the Marines under their command are physically fit."
- "Proper maintenance of communication and electronic equipment is the responsibility of the commander."
- "The commanding officer is responsible for the administration of the voting program within their respective unit."

Statements such as these directing the commander's attention to his responsibilities (a fact of which he is already well aware) serve no useful purpose. They do not provide clarity or increased guidance, but merely add words to directives that are oftentimes already lengthy.

I beseech him who originates orders and has just completed describing in his order an extremely difficult task that the comander is required to accomplish in an improbable period of time—STOP RIGHT THERE and let the fixing of command responsibility stay where it rightly belongs—in the Marine Corps Manual and Naval Regulations.

USMC

2dFAG, ForTrps
Camp Lejeune, N.C.

OBSERVATION POST CONTINUED

I&I Duty: A Challenge

By Sgt W. S. Gilbert

LET'S EXAMINE OUR RESERVE PROGRAM. The reserve forces today are more capable of performing their mission than ever before. There are still problems, however, that must be overcome before the full capability of our Organized Reserve can be realized. It's true that the reserve has a higher percentage of drill attendance than ever before, and theoretically true that it is in a much better position to respond when needed. However, we are not realizing the full capabilities that are present. Our attitude is poor.

Who's *we*? *We* are the majority of regular or full time Marines who through either rivalry or misunderstanding have a tendency to feel, whenever the word *reserve* is mentioned, that some vile type of ogre has been unleashed. A being so far beneath us that we can't even begin to comprehend any usefulness from this animal.

Many of us seem to forget that during WWII and in Korea, a large percentage of the personnel who fought and died had "USMCR" after their name.

If we feel superior to these Marines, we are not fulfilling the mission for which we are assigned to these organized units. It is the responsibility of us all not to grumble about the lack of qualifications of these men, but rather to overcome this lack. I do not propose to take a group of men, and in one weekend (usually 16 hours per month) have as efficient an organization as you would have with a unit to which can be devoted at least one hundred and forty hours per month. That would be a ridiculous assumption.

The object is to realize this and to make the most of these 16-odd hours. Once this is recognized and taken into consideration, I feel the attitude of the Marines who have this responsibility will change.

Too often when a reservist is considered for a responsible job I have heard someone say, "He can't do that job—he doesn't know how." I'd like to ask those same people how they propose to teach them how. Would they rather wait until they are in a combat situation and then teach them?

We must not expect performance above the capabilities; rather we must extend this capability.

One of the most glaring errors in this area is the administration involved in operating a reserve unit. I would like to say but one thing in this respect. Could any 0141 do his job if he had only about one-tenth the amount of time he now has to keep up with present day administration? Is there any among us who could be one *n*th as proficient at his job when doing it only two days a month instead of as he is now? I think not. I have personally been acquainted with administration as it pertains to the reserve since 1957.

Since that time there have been any number of major changes. The unit diary alone would require at least all of

one drill for research if the respective reservists knew where to find what they are looking for.

By the same token, a man who has spent three years as a pay clerk would have a devil of a time doing all the related paper work required in preparing a quarterly drill report in the allotted time. Let's just be realistic about it. Consider the capabilities and develop them, but never require something that is not possible. Teach what can be put to use. Develop the ability to know reference material.

On the training level, I feel the scene is far brighter than on any other. The progress of training in the last eight years is tremendous when one considers the old coffee drinking sessions that once were called reserve meetings. Let's not stop there, though. Let's continue to develop better training techniques and more interesting means of putting across the training we are giving. A great step in this direction was made with the encouragement of more field work.

In conjunction with interesting training goes the goal and aim of every unit. The high drill attendance. When we have the proper interest in the training, the drill attendance will take care of itself.

Let's stop thinking the Strength and Drill Attendance Report is an ax hanging over the heads of unit commanding officers.

True, this is a report to show the growth and performance of the unit. But it is not the end to all things. What good is the high performance on a piece of printed form if the mission is only partially accomplished? If it's simply drill attendance we want, then start giving away free beer at all drills. That will get you attendance, but it sure won't give you the efficient unit that is the prime purpose for holding the drill. Put the S&D report back where it belongs. A means to determine the administrative or paper capabilities of the unit.

What good is it to have 100% trained personnel (on paper), if they are only trained in accordance with meeting the prerequisites of attending so many drills and so many summer camps?

One other point to ponder: Marines at the various Recruit Depots and Advanced Training Bases where these reserves have been trained have, to the most extent, done a magnificent job of instilling what we want in the reservist. Could we take the attitude of making our work a continuation of what has gone before?

Just observe some of the six month trainees who report back from their training. Then take a look at them six months later.

I ask you, "Are we doing our job?"

USMC

I&I Staff
5th Rifle Co.
Lansing, Mich.

Why Not Truck Teams?

By Capt R. W. Badeker

BOAT TEAMS HAVE BEEN USED FOR over 20 years and helicopters for nearly 10. Marines can load smoothly over the side of a ship in foul weather or into helicopters despite the noise and dust. But let even a small convoy of trucks start loading troops and what follows is at best mild confusion. The confusion is in direct proportion to the size of the unit involved and is compounded by adverse conditions such as darkness and foul weather.

The usual procedure is for the gunnery sergeant to start with the first truck in the column and load it. When it's loaded, he starts on the second. And so it goes until all trucks are loaded.

The equation for this would be:

Loading Time = Time for One Truck × Number of Trucks

However, if trucks are loaded simultaneously by using truck teams, it's possible to load an entire convoy in the time it takes to load one truck, plus a frictional loss which will vary with each situation. Now the equation looks like this:

Loading Time = Time for One Truck + Frictional Loss

I had given little thought to truck teams until a motor transport company commander leveled some constructive criticism at my battalion's slow loading time. The next time I met this officer my battalion loaded 525 men on 29 trucks in two and one-half minutes. At the end of three minutes the convoy was moving. Results are impressive and yet the system is simple.

Loading an infantry battalion provides a good example:

Motor transport units operating under normal conditions will arrive 10 to 15 minutes prior to the time requested. At this time the S-4 or battalion motor transport officer should meet the convoy commander and determine the number of trucks in the convoy and the troop capacity of each. The S-4 then requests the convoy commander to number his trucks consecutively, chalking a number on both sides of each truck. Chalk is provided by the S-4. Having already received strength figures from the companies, the S-4 sends a runner to company commanders. Runners informs them how many trucks are assigned to each company.

After runner has reported to company commander, the CO knows how many trucks are assigned to him, their numbers, and their relative position in the convoy. With this knowledge he organizes his truck teams and proceeds to load. If troops are to ride the same trucks on a return trip, the senior man in each truck team is told 1) to get the number of the truck and 2) to get his men back aboard that truck. The convoy commander must keep his vehicles in nemerical order. Each driver should know the system being used at the earliest chance.

Like any system, this one works best when conditions are favorable. But it improves efficiency under any circumstances. Whether in garrison or in the field, fair weather or foul, daylight or darkness, the truck team can be as useful to us as the heli-team or the boat team.

USMC

301 "A" Alderwood Rd
Oceanside, Calif.

Your Standard Brandsman maps profits
He can scout you tidy profits on gelatin desserts, *if* you serve Royal in your open mess or exchange restaurant.
Proof? The "schnozzola" test! Pour boiling water over Royal Strawberry Gelatin. Royal's fragrance will remind you of just-picked berries. Your present gelatin (unless it's Royal) couldn't pass the same test.
Royal's versatile, too—makes countless variations of desserts, salads, pies. Order Royal, *soon*.
Royal
GELATIN DESSERTS

THE SCHOOL SOLUTION

(Answers to questions on page 13)

Note: References designated as TIP (Tentative Instructional Precis), SM (Supplementary Material), and MCS (Marine Corps Schools Publication) are manuals written by the staff of Marine Corps Educational Center as texts for MCEC schools.

BASIC

1 d. Reference: MCS 3-110 (1959), paragraph 31. In an effort to keep the paragraphs of the operation order and its annexes as brief and simple as possible, procedures which lend themselves to standardization are compiled in SOPs and Communications Operating Instructions (COI). The operation plan or order and its annexes simply reference these publications. The COI contains the technical instructions necessary to establish communications, including the pyrotechnic code; whereas the COMMSOP is an order which prescribes instructions to be followed by the unit in the performance of tactical and administrative functions which the commander desires to make routine.

2 a. Reference: MCS 3-33, "Rifle Company Tactics" (1958), paragraph 32a (1) (c). The battle area is the principal resistance area in a position defense. It consists of a number of defense areas which may or may not be mutually supporting, each organized for all-around defense. Intervals between defense areas are defined by fire, aggressive patrolling, and the employment of obstacles.

3 c. Reference: MCS 1-19, "Enforcement of Military Law and Order" (1959), paragraph 41b (2). For psychological effect, it should be evident to the crowd that there is a commander, that he has a plan, that he has the courage to act vigorously, and that he has available and intends to use whatever force is necessary. Normally, the first step in dispersing a crowd is the display of military strength. As a rule, weapons should be used to disperse a crowd only as a last resort.

JUNIOR

4 (c) Reference: SM-85, paragraph 11c (3). Considering the offensive nature of the mission of the striking force, the preponderance of available tanks should be employed in support of this force in order to take full advantage of their mobile firepower and shock action. The limitations of the tank are minimized in employment with this force because the attack is over familiar terrain and the enemy antitank forces are likely to be disorganized.

5 (b) Reference: MCS 3-24E, paragraph 38b (3) (b). In exploiting the success that has been gained during daylight hours, a night attack should be launched as soon after dark as possible in order to preclude enemy regrouping, reorganization, and time to prepare strong defensive positions. Thus the correct answer is (b). The purpose of the attack is the deciding factor in determining the time of the attack. If it is to exploit success, or to seize and hold ground, the attack should be launched before midnight. If the purpose is to seize ground in preparation for further attack, it should be launched after midnight so as to allow time for seizure of the objective and consolidation of the position before dawn.

SENIOR

6 (a) Reference: LFM 00 (Tentative), paragraph 735a(2). The Amphibious Task Force commander assumes responsibility for all air operations in the objective area upon his arrival in the area.

WHAT IT IS

This is an example of 82mm four gun mortar positions. Location: Korea, Spring '53. Indicators are: line of rectangular enlargements in trench along reverse slope (A). It is worthwhile to note the light-toned earth scar (B), which could be either a CP or control bunker.

Naturally, in a moving situation, permanent trenches and bunkers would not be present, however, four over-sized foxholes in a line (C) probably comprise a mortar position. Places to look: reverse slopes, defiladed areas.

TIME TO MOVE?

Orders In?

No need to move your bank account with your furniture.

Keep your account with us. We know and understand Marines and their problems . . . we've been serving Marines all over the world for over 35 years.

- Bank by mail
- Borrow by mail

Keep a home port . . . keep your account with

- Savings
- Checking Accounts
- Loans
- Auto financing at a low 3½%

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OF QUANTICO, VA.

BASEPLATE

Mc GURK

A double date leads to some lofty talk, the like of which is seldom heard in the Ale and Quail Club

"BASEPLATE, IF YOU DON'T STOP MAKING THOSE strange noises, I'm going to deck you!" Tex growled unsociably.

"He's humming *Easter Parade*," Dusty chuckled. "He's been addle-headed ever since you gents double dated last week."

"Well, at least, I didn't make out like I'd been a hero on the Okinawan landing!" I pointed out and watched Tex squirm. "Theah ah was, honey," I mimicked, "16 yeahs ago on a bright Eastah mawnin Why, when the Marines landed on Okinawa you still believed Texas jack rabbits brought those pretty, colored eggs!"

"Oh well," Tex said ruefully, "she not only didn't buy it but she got real upset. Said she'd take off if there was any more 'war talk'!"

"I don't blame that little fluff for reading you off," I said. "In fact, I agree with her in principle. You can't enjoy life if you're all the time talking about fighting and wars and such. All of us basically desire a normal existence."

"Yes," said Dusty thoughtfully, "and it's this normal desire for normalcy that is the main cause of our troubles. It caused the abrupt demobilization of our armed forces after the second war to the great advantage of the Soviets. It causes a large number of Americans to prefer facing a TV set rather than their responsibilities in the Cold War—also to the great advantage of the Soviets."

"Well, it isn't only the civilians!" Tex snorted. "How many brass-bar-cadets do you know who parrot that routine about being a realist? You know, saying that the only thing that makes sense is to get your obligated service out of the way and then live a normal prosperous civilian life. This is supposed to be realism! This is supposed to be normalcy in this day and age? Why the bums actually sneer at the thought of anyone 'idealistic' enough to devote his life to the service of his country!"

"Fortunately there are not too many of those types around," Dusty said calmly. "Most people shake that adolescent attitude upon graduating from college. Anyway, why get excited? They just haven't grown up. It takes a mature person to recognize the value of ideals. Even then, such a recognition doesn't necessarily mean he's man enough to live up to them."

"I guess I shouldn't blow my tubes," Tex said pensively. "I have to admit that I thought I had all of the answers when I first joined. Still, I knew I wasn't really happy. What cleared my thinking and made me start enjoying life was something another Marine said. He was a Basic School staff officer and it was at our Mess Night. You all were there. Do you remember?"

"Yes!" Dusty replied. "He told us to be honest with ourselves. He challenged us to have the guts to be stimulated by our emotions and the pride to live by our own rather than someone else's opinion."

"Right!" I said. "He also said that if we did this, it would be easy to live up to the ideals we profess."

"And, when I shook my head doubtfully," Tex broke in, "he read my mind. He said that after awhile, living your ideals becomes a habit in the Corps. When so many people around you are doing the same, it just seems normal.

"So this 'normal desire for normalcy' that Dusty was talking about, works both ways. It can work either for or against the best interests of our country. It all depends upon the individual, his sense of values, and his courage in upholding them." USMC

TOOLS, TACTICS, TECHNIQUES

Looking Ahead

What's Ahead for Marine Aviation?

Planners pretty well know what planes they'll be using through 1970. Now they're after the best way to fit them into the air wing.

Their goal: Find optimum structure of a wing to perform mid-range tasks of air support, anti-air warfare, missile control, recon, and service support.

Not all planning is distant. Study which began last November also concerns itself with current developments. Example: Delivery of the Corps' first GV-1 meant revamping 3dMAW's VMR-352, redesignating squadron as a VMGR (not MIRS as earlier reported). "G" stands for Inflight Refueling. Eventually there'll be a 12-plane VMGR in each wing.

AIRCRAFT RECAP

	Now	*Mid-range follow-on*	*Long-range follow-on*
VMF	F8U-1/1E/2	F8U-2N	
	F4D	F4H-1	F6D
VMA	FJ4B/A4D-2	A4D-2N	
	A4D-2N	A4D-5	
		A2F-1	
VMR	R4Q		
	R5D	GV-1	
HMR (L)	HRS	HUS	
	HUS	*HR2P	VTOL (?)
VMO	OE	**ASH	Drones (?)
	HOK		

***Probable designation for Vertol 107**

****For Assault Support Helicopter**

Ed: We didn't forget HMR(M) which now has HR2S, nor VMCJ which now has F8U. Information on planned follow-on aircraft for these squadrons not available.

Some planning, near and far, must overlap. F8U-2N, an all-weather Crusader, has started phasing in (to 3d MAW's VMF-334). Someday DivAv hopes to have all its fighter squadrons carrying (AW) designations.

Next step: improve all-weather capabilities. Planners believe they have the answer in F4H Phantom II, are programming the fighter in 1963. It's set to replace F4D (see chart) but not necessarily on a one-for-one basis.

F4H is big and fast; it won't take as many to do the job of F4D. F4H is also more complex, there is more of it to maintain. These items are under study.

Another: F4H has two seats. So does A2F, an attack bomber designed for VMAs. One advantage of having two Marines in tactical aircraft is to improve all-weather capabilities: one navigates while the other devotes full time to piloting the craft. Dual seats mean two heads, four hands to guide plane to target, return it home safely. One area under study: procuring, training, using Marines who will be riding with the pilot. Present plans call for using new WOs with past experience as AIOs, training others who lack prior experience.

Projected far into the future is F6D Missileer, launcher for Navy's hush-hush Eagle air-to-air missile, an anti-air warfare weapon designed to destroy aircraft or guided missiles at increased operating altitudes and ranges. DivAv's long range plans include programming three F6D squadrons to complement squadrons using F4H.

A New Whirlybird

What may well be the last "pure" light transport helicopter in Marine Aviation is slated for delivery by 1963. It's the Vertol 107, recent winner in a design contest for an improved assault helicopter. Fourteen are planned for the initial purchase order, will be filtered into HMRs.

DivAv forsees a long service life for 107 (designated HR2P) although eventually helicopters as a military tool will most likely give way to VTOL/STOL aircraft (see SCRAPBOOK, page 14). The 107 has been selected to help bridge transitional period.

Spotting exercises by BuWeps engineers indicate more 107-type helicopters can operate off an LPH or LPD than any other configuration. This was the main reason it got picked. Others:

- Seating for 26 Marines
- Sealed hull for water take-off or landing
- Rear loading ramp
- Improved lift, range, speed

Meanwhile, testing of components for Vertol YHC-B "Chinook" a medium transport helicopter designed for US Army are going on. First set of rotor blades for the proposed helicopter passed a required 110-hour preflight whirl test. The first Chinook is slated to fly this month or next. Interested kibitzer: DivAv.

SATS: A State of Bliss

An item that puts the "T" in SATS is slated for delivery to air wings in October. It's the Bliss Cataport (for portable catapult) which launches planes off short airfields slingshot fashion. Each wing gets two, plus the Marines to operate and maintain them.

Schooling for 21 enlisted Marines, 3 officers has been set up at NATF, Lakehurst, N. J. Classes convene in

September, will graduate Cataport Marines in time to be on hand when gear reaches the field. This means one crew (7 enlisted, 1 officer) will FTO to 1stMAW immediately following school. These three school-trained crews form cadre for OJT of additional Cataport Marines.

Companion SATS item slated for fall delivery: Arresting gear, also made by Bliss, to replace heavy, unwieldy MOREST. New gear weighs 10,200 pounds vs MOREST 74,000.

Experienced MOREST Marines will be chosen for schooling, will also learn to operate new arresting gear M-20.

More on the catapult:

Its designation is RE-M1 (first two letters for Reel, Expeditionary.) Pratt and Whitney T-34 engine supplies the boost. It can launch a fully loaded F8U within 1,000 feet. Overall weight is less than 30,000 pounds.

Bonus nice-to-have feature: RE-M1 can also function as arresting gear.

Lightweight Hose

A flat hose, occupying a minimum of cargo space but tough enough for long field service is being evaluated by MCLFDC for AAFS.

It's "Flexicon," an extremely lightweight hose developed by Goodyear.

Flexicon on reels occupies about one-twelfth the space of conventional hose, is a fraction of its weight. It is so light and flexible planners forsee rapid laying of fuel lines by "flaking" Flexicon from a helicopter.

Hose has been successfully produced in diameters from 2½ to 48 inches, in lengths up to 1,300 feet. Weight of three-inch diameter hose runs half pound per foot, largest hose made so far (48-in) weighs four pounds per foot.

Hose could follow Marines to tropics or Aleutians, is serviceable at temperatures from 20 below to 125 degrees.

Mobile Homes

Planners were after mobility; "Let's wrap RadCo gear in a new package, better fit it into USMC doctrine of operations."

The idea was to unload all RadCo operating gear off 2½-ton trucks, put it in an aluminum hut, transport it via helicopter. Tests involved only the worth of the system, not parts. After extensive study by 2dComp RadCo, this recommendation:

"Great idea. Let's do it, make Helicop Huts SOP. Repackaging gives advantages of weight, compactness, ease of operations, better mobility; no impairment of operational capabilities."

Hut used was of basic design, Model S-138/TR made by Craig Systems, Inc.

During lift tests, shelters and sensitive radio gear twice withstood short (8-15 feet) accidental drops. Airborne time averaged 15 minutes.

Huts were also tested overland. Mounted on 2½-ton trucks they travelled several hundred miles of both hard surface roads and rough terrain.

Over the Waves

Newest approach to finding a replacement for LCM (Landing Craft, Mechanized) is an anti-friction hull, basically a combination of GEM and planing hull. BuShips is dickering with Anti-Friction Hull Co (Laurel, Md) for an engineering model. Craft is of conventional design except for air feature: a 100hp engine blows air into forward compartment of hull, forces it out onto water via vents. Craft then lifts, rides on air bubble. Speeds up to 30 knots are feasible.

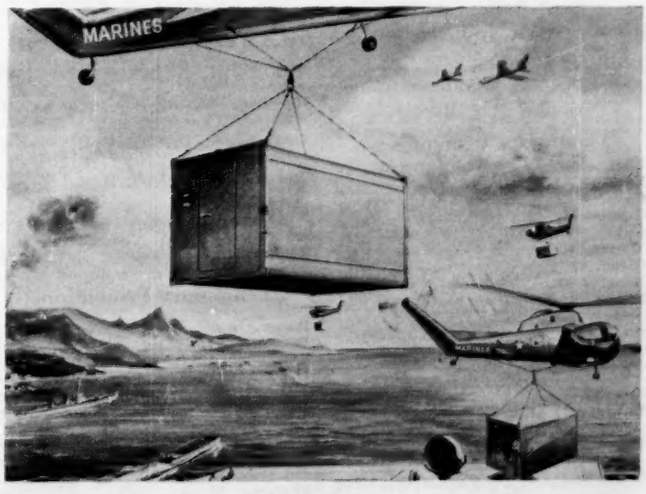
Amphibious planners are interested in this type hull mainly from standpoint of economy. Less power is needed to achieve desired speeds than in either planing hulls or hydrofoils. Engineering model will have wooden hull; prototype, if built, will probably be plastic.

Marine Corps' third ground effect machine is undergoing tests by ONR at David Taylor Model Basin, huge indoor ship test center at Cabin John, Md.

It's GEM III, a gas turbine-powered air-cushion vehicle built by National Research Associates (Laurel, Md.), for ground effect study. GEM III will be used to furnish aeronautical data that might someday lead to a larger prototype GEM.

It's bigger than GEM I, smaller than GEM II, a mammoth flying boat brought to MCLFDC from Switzerland. All three are engineering test items. Latest GEM is 22 feet long, 12 feet wide, is designed to carry twice its gross weight of 1,835 lbs. Designers of GEM III are shooting for a speed up to 70mph in later machines.

Also interested in the GEM concept: Walt Disney. NRA has a licensing agreement to produce flying saucers eight feet in diameter for use at Disneyland.



Marine HR2S in artist's concept sweep in on beachhead carrying Hughes Aircraft packaged electronic antiair system. System coordinates firing of Hawk and Terrier, is being tested at 29 Palms. Planners have already tested idea of repackaging radio gear in helihuts (story left)

General Officers

Transfers

Collins, W. R. 9903
Fr MCS Quant
To CINCLANT By8Mar

Deaths, Retired

Enright, W. K.
USN Hosp Annapolis Md 27Feb
Reid, G. C.
USAF Hosp Harlingen, Tex 19Feb

Colonels

Transfers

Brackett, E. E. 9907
Fr 3dMAW
To FMFPacWestPac By3May
Bryson, R. L. 9907
Fr MARTD MARTC LOSAL
To 1stMAW By25May
Carneal, W. B. 9906
Fr 3dMarDiv WDApr
To HQMC
Cloman, W. A. 9907
Fr 1stMAW WDApr
To HQMC
Daughtry, W. E. 9906
Fr MCS Quant
To JTSTF Ofc JCS By27Feb
Gorman, J. E. 9906
Fr MCRDep PISC
To NAG Korea By22May
Granger, C. L. 9906
Fr 3dMarDiv WDApr
To NAD LUALUALEI
Holomon, W. 9906
Fr 3dMarDiv WDApr
To HQMC
Hudgins, V. H. 9907
Fr 3dMAW
To NAS LOSALAM LBEAC By25Apr
Mandeville, S. D. 9906
Fr MB Pt Lyautey WDApr
To 3dMarDiv
Rathbun, J. P. 9906
Fr 3dMarDiv WDApr
To MCRDep PISC
Schaub, W. K. 9906
Fr MCS Quant WDApr
To OFC Chief Nav Res
Silvey, D. W. 9906
Fr LFTULant
To 3dMarDiv By1May

Recent Command and Staff Assignments

Hannan, W. H., CO, VTU(S)1-55, Brooklyn, N. Y.
Laster, C. A., Director, Development Center and Deputy Coordinator, MCLFD Activities

Temporary Promotions

Bachhuber, A. J. Mar
Beck, D. M. Mar
Cave, T. F. Mar
Gunter, H. G. Mar
Hayes, H. A. Mar
Morris, W. Mar
Olson, H. C. Mar
Ross, J. F. Mar
Siegel, E. A. Mar
Spiker, T. F. Mar
Stewart, F. R. Mar
Wagner, L. W. Mar

Retired

Fawell, R. M. 9906
5th MCRRD 28Feb
Walton, R. C. 9906
OFC COMPTROLLER WashDC 31Mar

Deaths

Davis, R. R. 9907
USNH Memphis Tenn 19Feb

Deaths, Retired

Norman, L.
MacDill AFB Tampa Fla 5Feb

Lieutenant Colonels

Transfers

Armstrong, V. A. 7335
Fr MCS Quant
To LangScol Monterey By25May
Banks, D. W. 0302
Fr MB NAS Quon Pt WDApr
To MCAS Quant
Bradley, G. D. 1803
Fr NSA Ft Meade WDApr
To MCS Quant
McCombs, G. W. 7304
Fr SDiego St College WDFeb
To 1stMAW
Mell, D. L. 0302
To FMFLant
Fr 3dMarDiv WDApr
Nuess, R. H. 7335
Fr MCAAS Yuma
To 1stMAW By25May
Piper, J. B. 7305
Fr 2dMAW
To MARTC NAS Bklyn By1May
Pritchett, C. H. 0302
Fr 1stMAW WDApr
To 8th MCRRD
Rotter, F. F. 7333
Fr MCS Quant
To 1stMAW By25May
Saxon, T. J. 7333
Fr 1stMAW WDApr
To HQMC
Sherbondy, A. L. 3002
Fr ForTrps FMFLant
To CINCLANT By1Apr
Shuchter, G. M. 7335
Fr MCS Quant
To 1stMAW By25May
Simonds, F. H. 7333
Fr MCAS Kaneohe WDApr
To 1stMAW
Smyth, F. H. 7307
Fr 2dMAW
To 1stMAW By25May
Traynor, W. L. 7333
Fr 1stMAW WDApr
To MCAS Kaneohe
Watkins, W. M. 7333
Fr 1stMAW WDApr
To MCAS Beaufort
Whiteside, M. C. 3002
Fr 3dMarDiv WDApr
To 2dMarDiv
Wolf, G. P. 0302
Fr 1stMAW WDApr
To LFTUPac

Recent Command and and Staff Assignments

Coburn, A. P., CO, VTU(OT) 1-20, Hartford, Conn.
MacMillan, J. F., CO, VTU(OT) 1-36, Horsehead, N. Y.
McHenry, G. W., MS, Special Services Officer, MCS, Quantico, Va.
McLaurin, J. M., CO, 1stBn, 11th Mar, 1stMarDiv
Morrison, W. R., CO, 2nd LAAM Bn, FMFPac
Stephany, E. O., CO, VTU(S) 1-10, Rochester, N. Y.
Stuenkel, W. E., G-4, HQMC

Extended Active Duty

Toohy, J. G. Mar62

Temporary Promotions

Baker, R. W. Mar
Bauer, R. A. Mar
Browning, R. C. Mar
Curtis, O. W. Mar
Farrell, W. Mar
Hohl, R. W. Mar
Kelley, J. P. Mar
Lindley, D. W. Mar
Russell, M. R. Feb
Schriver, R. J. Mar
Webster, W. J. Mar
Woodard, R. M. Mar

Retired

Bear, R. J. 3002
MCSC Albany 31Mar
Butler, J. J. 1302
1stMarDiv 28Feb
Copeland, J. A. 0302
LFTUPAC 31Mar
Munson, S. C. 0302
MCRDep SDiego 28Feb
Neal, R. T. 0302
MB NS SDiego 31Mar

Deaths

Humphreys, Z. O. 7302
MCS Quantico 23Feb

Majors

Transfers

Agnew, E. R. 7302
Fr 2dMAW
To 1stMAW By22May
Aisip, E. O. 7304
Fr MAD NAB Pncla
To 1stMAW By22May
Bassett, W. D. 3002
Fr 12th MCRRD WDApr
To 3dMarDiv
Benson, C. H. 0302
Fr 3dMarDiv WDApr
To MCB CamPen
Buckingham, C. W. 7304
Fr 1stMAW WDApr
To NAS Grosse Ile Mich
Carter, B. 7304
Fr 1stMAW
To MARTC NAS MFS By1May
Cummings, W. M. 0302
Fr 3dMarDiv WDApr
To ForTrps FMFLant
Deering, C. E. 7333
Fr 1stMAW WDApr
To MCAS Quant
Dole, C. E. 7383
Fr 1stMAW WDApr
To 3dMAW
Dorsey, J. W. 0302
Fr 1stMarBrig
To OFC DIRJTSTF JCS By1May
Duncan, H. C. 0302
Fr 3dMarDiv WDApr
To MCRDep PISC
Fine, D. D. 7302
Fr 2dMAW
To 1stMAW By20May
Gore, W. L. 0802
Fr Univ of Omaha WDMar
To I&I 8th 105HowBn
Hansen, K. 0302
Fr ForTrps FMFLant
To CINCLANT By10Mar
Hendrickson, A .B. 0302
Fr 4th MCRRD WDApr
To 3dMarDiv
Hess, T. D. 0302
Fr 1stMarBrig
To HQMC By15May
Hitchcock, P. L. 7333
Fr FMFLant
To CINCLANT By8Mar
Hixson, W. W. 0802
Fr 3dMarDiv WDApr
To MB NAD HAWTHORNE
Johnson, W. H. 7333
Fr 1stMAW WDApr
To AIRFMFPac El Toro
Kletzker, R. L. 0302
Fr NAS SDiego WDApr
To 1stMAW
Lutnick, W. A. 3502
Fr 1stMAW WDApr
To MCB CamPen
Mason, J. B. 7333
Fr 1stMAW WDApr
To 3dMAW
Munro, R. J. 7333
Fr 1stMAW WDApr
To 3dMAW
Nelson, W. O. 7335
Fr 1stMAW WDApr
To MCS MCAS Quant
Oster, E. M. 7333
Fr MCAS El Toro
To 1stMAW By1May
Owens, M. T. 0802
Fr 3dMarDiv WDApr
To ForTrps FMFPac
Roland, H. E. 7305
Fr Kirtland AFB
To OFC Asst SecNav By29May
Schoner, A. C. 7333
Fr 1stMAW WDApr
To HQMC
Stansbury, C. F. 1302
Fr 3dMarDiv WDApr
To ForTrps CamLej
Stewart, W. C. 7333
Fr 1stMarBrig
To Kirtland AFB By18Apr
Trammell, R. B. 7307
Fr 1stMAW WDApr
To MCS MCAS Quant
Wellwood, R. E. 7307
Fr MCAF New River WDMar
To 2dMAW
Wentworth, W. 0302
Fr ONI Wash DC WDApr
To MCS Quant

Recent Command and Staff Assignments

Hargwood, P. B., G-3, HQMC
Michael, R. L., G-3, HQMC
Pearson, M., ExO, 2nd LAAM Bn, FMFPac

Permanent Promotions

Wilson, J. W. Feb

Temporary Promotions

Barrett, H. L. Mar
Carter, D. I. Mar
Colvin, H. C. Mar
Cooper, C. G. Mar
Davis, J. K. Mar
Goodiel, C. D. Mar
Hunter, D. J. Mar
Hunter, R. E. Mar
Kennedy, H. T. Mar
Laine, E. R. Mar
Leder, F. D. Mar
Lindsley, R. A. Mar
Manley, T. F. Mar
Martin, H. V. Mar
McCrary, N. B. Mar
McEnaney, J. R. Mar
Montgomery, R. R. Mar
Moss, R. B. Mar
Muir, W. B. Mar
Rees, G. J. Mar
Stewart, A. M. Mar
Tatem, L. E. Mar
Whitesell, R. D. Mar
White, W. V. Mar

Retired

Brinkman, F. H. 0302
MCAS El Toro 31Mar
Dixon, G. T. 0302
1stMarDiv 31Mar
Frazier, L. S. 0302
MB NB Phila 26Feb
Mixson, W. J. 3501
MB NS SFran 28Feb
Orem, E. J. 3002
HQMC 28Feb
Schwendimann, H. N. 7333
MCAF Santa Ana 31Mar
Stamford, E. P. 7304
MCAS El Toro 28Feb

Deaths

Bacas, G. A. 7307
NAS Patuxent River Feb

Deaths, Reserve

Frederickson, N. I.
Arlington Minn 29Dec

Deaths, Retired

Zischke, H. A.
Minocqua Wisc 4Oct

Captains

Recommended for Promotion, Reserve

Adkins, H. P., Jr.
Ahern D. H.
Balocco, E. P.
Bartlett, D. J.
Berger, D. S.
Berkshire, R. H.
Brickell, W. W.
Buchanan, R. M.
Calder, J. C.
Caldwell, M. A.
Cappiello, F. A., Jr.
Cauchon, P. A.
Chott, P. D.
Clifford, K. J.
Clingan, B. E.
Colmery, R. D.
Corcoran, E. T., Jr.
Cosmos, J.
Courtney, J. E.
Crall, G. M.
Crawford, J. A.
Croke, T. M., III
Davies, E. D., Jr.
Denobriga, F. H.
Dimsdale, G. A.
Doggett, A. C., Jr.
Dorr, R. C.
Doyle, R. P.
Eddlemon, J. D.
Eustace, J. M.
Evans, D. W.
Finney, G. W.
Flores, J. J.
Flynn, C. E.
Frear, R. J.
Frease, J. M.
Geary, W. E.
George, T.
Gray, R.
Grimes, W. P.
Grisham, O. L.
Guglin, T. E.
Hall, J. S.
Hart, J. H.

Hatcher, J. W.
Hauser, A. M.
Hendrickson, R. J.
Hershner, C. H.
Hews, J. H.
Hill, R. H.
Houck, I. C., Jr.
Hughes, A. B.
Hutson, H. C.
Ireland, J. B.
Kaneft, O. J.
Kelleher, J. M.
Kemp, H. B., Jr.
Keyes, G. F.
Knowlton, S.
LeBaron, E. W., Jr.
Lillie, P. J.
Lowe, C. G.
Lynch, R. D.
MacLachlan, D. D.
Mahakian, C. K.
Mayor, K. G.
Mazzella, P. P.
McKenzie, J. A.
Meissner, W. F.
Miles, F.
Mitchell, J. M., Jr.
Murphy, R. J., Jr.
Murphy, R. W., Jr.
Naylor, J. P.
Nolan, J. E., Jr.
O'Brien, G. F. W.
O'Donnell, B. P.
Ortlieb, J. J., Jr.
Patton, R. S.
Peters, L. H.
Peterson, H. L.
Pimentel, E. A.
Price, V. S.
Provost, K. F.
Raisch, R. S.
Reynolds, C. L.
Rieley, T. F.
Rodgers, W. J., Jr.
Russell, R. E.
Rust, R. W.
Sandlin, T. H.
Schlaudt, R. C.
Schreiber, R. M.
Scully, R. J.
Searles, H. E.
Sims, W. M.
Slafkosky, A. L.
Sorrentino, F. L.
Sparks, C. F., Jr.
Stark, R. S.
Swales, W., Jr.
Sween, B. T.
Teague, E. L., Jr.
Thomas, H. H.
Trammell, D. B.
Verdi, J. M.
Waddell, W. D.
Whitla, R. H., Jr.
Williams, T. R.
Winfrey, F. N.
Wood, J. L.
Wozniak, J. F.
Wright, W. D., Jr.
Young, T. S., III

Transfers

Addis, W. J. 0130
Fr NAG Seoul Korea WDApr
To 2dMarDiv

Allanson, W. A. 7335
Fr 2dMAW
To 1stMarDiv By15May

Allen, L. J. 6402
Fr MCAS Beaufort
To 1stMAW By15May

Anderson, D. L. 0302
Fr I-I STF San Jose
To 3dMarDiv By1May

Andrews, C. B. 7333
Fr NABTC NAS Pncla WDApr
To 2dMAW

Anthony, A. W. 7333
Fr 1stMAW WDApr
To 3dMAW

Bailey, A. S. 3060
Fr 1stMAW WDApr
To 2dMAW

Baker, K. 6602
Fr MCRD SDiego WDApr
To MCAAS Yuma

Baldinger, J. D. 7335
Fr 2dMAW WDApr
To 1stMAW

Blanchard, R. E. 7333
Fr 1stMAW WDApr
To CNAVANTRA CorpC

Booth, C. L. 0302
Fr 3dMarDiv WDApr
To MB Indian Head Md

Boreman, G. H. 0130
Fr MB NS TI SFran WDApr
To 1stMAW

Brandon, J. A. 7302
Fr 1stMarBrig WDApr
To MCAS Beaufort

Brewer, A. E. 7302
Fr MAD NAATC CorpC WDApr
To 1st Anglico FMFPac

Cadwell, R. A. 2502
Fr MCRDep SDiego WDFeb
To SU#6 G CO HQMC

Cardwell, R. E. 7333
Fr 1stMAW WDApr
To AIRFMFPac El Toro

Catt, J. R. 0302
Fr 3dMarDiv WDApr
To MCS Quant

Challgren, S. A. 7305
Fr 2dMAW WDApr
To AIRFMFPac

Chester, J. W. 3002
Fr MCB 29 Palms
To FMFPac By3Apr

Collins, G. L. 2710
Fr Ft Bliss Texas WDMar
To ForTrps FMFPac

Connolly, J. J. 1302
Fr 1stMarDiv
To 12thEngrCo Tucson By20May

Conway, R. C. 7332
Fr 2dMAW
To 1stMarDiv By1May

Cox, D. L. 2502
Fr ForTrps FMFLant
To I-I 2d 75mm AAA Py1May

Crain, M. W. 3010
Fr 3dMarDiv WDApr
To FMFLant Nor Va

Crane, A. C. 7333
Fr 3dMarDiv WDApr
To 2dMAW

Crawford, C. A. 7307
Fr 2dMAW WDApr
To MACS-1 MCAAS Yuma

Cull, F. S. 7333
Fr MAD NAS Pncla WDApr
To 1stMAW

Darco, A. J. 1302
Fr 4thMCCRD WDApr
To MCS Quant

Deutschlander, H. 0302
Fr USS Galveston WDApr
To MCRS Wilkes-Barre

Dilworth, C. W. 0802
Fr MCSC Albany WDApr
To 2dMarDiv

Dougherty, H. L. 1302
Fr 1stMarDiv
To I-I 4thEngrCo Chasn By20May

Driefer, J. L. 7333
Fr 1stMAW WDApr
To 1stMarBrig

Eller, R. E. 7002
Fr MCAAS Yuma Ariz
To 1stMAW By1Apr

Elam, D. L. 7302
Fr 2dMarDiv WDApr
To 1stMarBrig

Farley, W. F. 0802
Fr 3dMarDiv WDApr
To ForTrps FMFPac

Finn, R. J. 0302
Fr MCAS Beaufort
To 3dMarDiv By15May

Gillis, J. E. 7335
Fr 3dMAW WDApr
To NavPhibScol SDiego

Goller, W. O. 7302
Fr ForTrps FMFLant WDApr
To 3dMAW

Guay, R. P. 7333
Fr MAD NAATC Corp C WDApr
To 1stMarDiv

Gubb, L. A. 2502
Fr 1stMCRRD
To 3dMarDiv By24Apr

Harkey, H. J. 7333
To 1st MAW WDApr
To 3dMAW

Harper, H. M. 0302
Fr 9th MCRRD
To 3dMarDiv By10May

Havlik, J. 333
Fr 1stMAW WDApr
To MCAS Quant

Hayes, W. D. 6502
Fr 1stMAW WDApr
To 3dMAW

Headley, W. A. 7331
Fr 1stMAW WDApr
To 2dMAW

Henderson, T. R. 0302
Fr 2dMarDiv
To USS Independence By5May

Henley, R. J. 0802
Fr 3dMarDiv WDApr
To MCRS Albuquerque

Hill. H. H. 0302
Fr 1stMarDiv WDApr
To MB NavFor Guam

Hoagland, G. T. 0802
Fr 4thMCRRD
To 3dMarDiv By20May

Holt, R. P. 0802
Fr 3dMarDiv WDApr
To OKCTY USMCR

Hurley, J. E. 0802
Fr 3dMarDiv WDApr
To ForTrps FMFLant

Ireland, J. J. 0130
Fr ForTrps FMFPac WDApr
To 1stMAW

Jones, L. R. 7304
Fr 2dMAW
To 1stMAW By1Jun

Kerr, L. E. 3060
Fr 2dMAW
To 1stMarBrig By15May

Ladd, B. T. 7335
Fr 2dMAW WDApr
To 3dMarDiv

Lawendowski, J. J. 0302
Fr 3dMarDiv WDApr
To OIC MCRS Wash

Loehe, R. E. 0302
Fr MCS Quant
To 3dMarDiv By15May

Lowrey, B. G. 0302
Fr USS Valley Forge WDApr
To USS Intrepid

MacDonald, G. A. 2502
Fr Ft Bliss Texas WDMar
To ForTrps FMFPac

MacDonald, H. A. 0302
Fr MB NTC GLakes
To USS Providence BY15May

Maher, J. E. 0302
Fr MBNB Phila WDApr
To 3dMarDiv

Mann, H. L. 3025
Fr 3dMarDiv WDApr
To 2dMarDiv

Marren, M. J. 6502
Fr 1stMAW WDApr
To MCAAS Yuma

Martin, G. R. 6402
Fr 1stMAW WDApr
To MCAS El Toro

McMonagle, J. J. 0302
Fr USS DesMoines
To MCS Quant By28Mar

McCarty, T. R. 3060
Fr 1st MAW WDApr
To 3dMAW

McLaughlin, M. W. 3402
Fr 3dMarDiv WDApr
To 1stMCRRD

Miller, R. B. 1802
Fr USS Intrepid WDApr
To MCRS Seattle

Mitchell, J. P. 0302
Fr FMFPac WDApr
To MCRD PISC

Moss, R. E. 0302
Fr FMFPac
To I-I 51st RifCo By1Jun

Myers, R. D. 7335
Fr 3dMAW WDApr
To VMO-6 MAY-36

Naze, A. F. 1802
Fr HQMC WDApr
To 3dMarDiv

Newlon, S. O. 7303
Fr 1stMAW WDApr
To MCAS Beaufort

Noble, J. B. 0302
Fr HQMC WDApr
To USS Northampton

Ogden, B. F. 0802
Fr ForTrps FMFPac By15Mar
To HQMC

Osborn, C. L. 3402
Fr MCB CamLej
To 1stMAW By22May

Paige, F. E. 1320
Fr CamBut Okinawa WDApr
To 1stMarDiv

Ranberg, C. A. 3025
Fr 3dMarDiv WDApr
To 1stMarDiv

Ranney, D. G. 7333
Fr MAD NAATC CorpC
To 2dMAW WDApr

Reese, C. L. 3060
Fr MB NAS NI Calif
To 1stMAW By22May

Reichert, E. 7335
Fr 3dMAW WDApr
To VMO-6 MAG-36

Rhine, W. E. 2502
Fr 3dMarDiv WDApr
To MCRDep SDiego

Rhymer, R. H. 3510
Fr 3dMarDiv WDApr
To 1stMarDiv

Roe, J. M. 0302
Fr 2dMarDiv
To USS Kitty Hawk By24Apr

Rudy, R. B. 7333
Fr 1stMAW WDApr
To MCAS Quant

Sandifer, L. B. 0130
Fr CamBut Okinawa WDApr
To MCB CamPen

Sardo, A. A. 3030
Fr 1stMarDiv
To 1stMAW By22May

Schauppner, E. G. 7332
Fr 3dMarDiv WDApr
To 1stMarBrig

Schels, J. K. 6502
Fr 1stMAW WDApr
To MCAS CherPt

Schremp, G. R. 1302
Fr 4thMCRRD WDApr
To MCS Quant

Schueler, R. 0802
Fr MCRDep PI
To I&I 155HowBtry ByMay15

Seal, R. E. 3102
Fr MCRDep SDiego
To MB Pearl By29May

Short, L. O. 7333
Fr MAD NAS Pncla WDApr
To 1stMAW

Skaugen, C. W. 0302
Fr 3dMarDiv WDApr
To MCS Quant

Snyder, L. G. 0802
Fr 3dMarDiv WDApr
To MCB 29 Palms

Strain, D. H. 0802
Fr Ft Sill Okla
To USS Shangri-la By1May

Thorson, A. G. 7331
Fr NavPhibScol SDiego WDApr
To 1stMAW

Trent, H. E. 0202
Fr MARTD NAS Glen WDMar
To 1st MAW

Tryon, C. G. 3020
Fr 3dMarDiv
To 1stMarDiv

Walters, R. D. 0302
Fr MB NB Subic Bay WDApr
To 3rdMarDiv

Way, J. D. 7333
Fr NAAS Kingsville WDApr
To NAS Pncla

Wolf, F. R. 7302
Fr 2dMarDiv WDApr
To MAD NAS Pncla

Yarnall, M. A. 7307
Fr 1stMAW WDApr
To MCAS Beaufort

Zeigles, L. I. 7335
Fr MCAS CherPt WDApr
To NAS Pncla

Recent Command and Staff Assignments

Bartlett, G. L., Staff Secretary, MCS, Quantico

Byers, B. C., CO, 13th Rifle Co., Austin, Tex.

Dunn, W. F., CO, HqBtry, 3dBn, 12th Mar, 1stMarBrig, FMF

Goen, S., District Disbursing Officer, 1st MCRRD

Kelly, T. P., CO, VTU(L) 1-39, Madison, N. J.

Phillips, R. J., S-1, 3dBn, 12thMar, 1stMarBrig, FMF

Parker, L. W., CO, A Battery, 2nd LAAM Bn, FMFPac

Jolley, M. S., CO, B Battery, 2nd LAAM Bn, FMFPac

Sullivan, W. J., CO, C Battery, 2nd LAAM Bn, FMFPac

Russell, R. H., CO, D Battery, 2nd LAAM Bn, FMFPac

Permanent Promotions

Adamczuk, R. W. Feb
Bruce, F. F. Feb
Collins, G. L. Feb
Evans, W. T. Feb
Houder, C. H. Feb
O'Neal, R. P. Feb
Rapp, J. T. Feb
Schneider, L. A. Feb
Ullom, T. H. Feb
Ultsch, H. E. Feb
Weiler, F. V. Feb

Selected for Integration

Barnard, W. R.
Chartrand, V. W.
Cooper, W. H.
Day, C. J.
***Hitt, J. S.**
Kaufman, L. A.
Loche, R. E.
Tashjian, R. C.
Willkomm, J. W.

***Denotes officer selected for promotion to captain.**

Released From Active Duty

Anderson, W. B. 7333
1stMAW WDApr
Keiser, J. G. 7333
2dMAW 30Apr
Quinlan, T. M. 6602
2dMAW 15May

Retired

Jones, H. B. 0302
HQMC 28Feb
Kasch, L. C. 6602
DASA Sandia AB 28Feb
Keller, E. J. 2002
MCB CamPen 28Feb

Deaths

Hargadine, W. W. 7333
USS Shangri-La 15Feb
Popok, C. S. 7333
1st MAW 11Feb

Deaths, Retired

Ahearn, J. V.
White Plains NY 1Feb
Jackson, J.
Plant City, Fla. 30Dec

1st Lieutenants

Transfers

Adams, R. O. 0302
Fr MB NavSubB WDApr
To 3dMarDiv

Allen, W. H. 6502
Fr 3dMAW WDApr
To MCAAS Yuma

Andreas, R. C. 7333
Fr 1stMAW WDApr
To NABTC NAS Pncla

Baldwin, W. S. 7333
Fr VMO-6 MAG36
To 1stMAW By1May

Barr, J. J. 3015
Fr 3dMarDiv WDApr
To 2dMarDiv

Blowers, C. W. 7399
Fr 2dMAW
To MAD NABTC Pncla 29Mar

Brand, R. L. 6709
Fr 3dMAW WDApr
To 1stMAW

Brokaw, J. C. 7333
Fr 3dMAW WDApr
To 1stMAW

Burkhart, A. E. 0802
Fr 3dMarDiv WDApr
To MCRDep PISC

Burns, J. D. 0302
Fr MCAS El Toro WDApr
To 1stMarDiv

Caracio, V. D. 3010
Fr 3dMarDiv WDApr
To 1stMarDiv

Coleman, J. M. 7333
Fr 1stMAW WDApr
To NABTC NAS Pncla

Dewan, J. R. 0802
Fr 1stMarDiv WDApr
To NAND Seal Beach

Donnelly, J. L. 0302
Fr 1stMarDiv
To USS Skagit By15May

Duckworth, J. R. 0802
Fr 3dMarDiv WDApr
To ForTrps FMFPac

Dziarnowski, R. F. 2502
Fr MCS Quant
To 3dMarDiv By31Mar

Elder, L. E. 7333
Fr 1stMAW WDApr
To CNAVANTRA CorpC

Falzarano, V. L. 7302
Fr 2dMAW
To 1stMarDiv By1Jun

Francis, J. C. 3015
Fr 3dMarDiv WDApr
To 2dMarDiv

Garcia, R. E. 0702
Fr HQMC WDMar
To NavMission Haiti

Gentry, W. R. 0302
Fr USS Valley Forge WDFeb
To FMFLant

German, R. T. 0302
Fr MCAF New River
To Ft Holabird Md By11May

Gligorea, T. J. 7335
Fr 1st MAW WDApr
To NAS Pncla

Hager, G. F. 7335
Fr 1stMAW WDApr
To NAS Pncla

Harding, W. W. 7333
Fr 3dMAW
To 1stMAW By1May

Harper, H. J. 0802
Fr 3dMarDiv WDApr
To MCRDep SDiego

Hatch, W. W. 3010
Fr MCRDep SDiego
To 3dMarDiv By22May

Havrda, J. J. 1302
Fr MCS Quant WDApr
To ForTrps FMFLant

Hines, D. R. 1302
Fr 1stMAW WDApr
To I&I 3dEngrBn Portland

Howard, M. W. 0302
Fr USS Des Moines WDMar
To NSYD Portsmouth

Jeszik, L. C. 2502
Fr MCS Quant WDApr
To Camp Butler

Johnson, G. A. 0302
Fr 3dMarDiv WDApr
To OIC MCRS Phila

Johnson, M. A. 0115
Fr MCRDep PI WDApr
To 4th MCRRD Phila

Just, F. W. 3502
Fr 3dMarDiv WDApr
To MCRDep SDiego

Keiser, P. J. 0301
Fr USS Canberra WDApr
To 2dMarDiv

Kershner, J. L. 0302
Fr 3dMarDiv WDApr
To MCRDep SDiego

King, K. W. 3502
Fr 1stMarBrig WDMar
To 1stAnglico FMFPac

Larimer, N. H. 3010
Fr MCRDep PI
To 1stMAW By22May

Loop, J. S. 7302
Fr MAD NAATC CorpC WDMar
To 1st Anglico FMFPac

Massa, F. M. 7102
Fr 1stMAW WDApr
To 3dMAW

McMinn, W. C. 0301
Fr USS Forestal WDApr
To 2dMarDiv

Meehan, T. F. 0302
Fr 3dMarDiv WDApr
To MCB CamLej

Morgan, H. A. 1302
Fr 1stMarDiv
To USS Okanagan By13Mar

Neeley, L. C. 1802
Fr 3dMarDiv WDApr
To 1st MarDiv

Nichols, D. L. 0302
Fr MB NS Kodiak WDApr
To MCRD SDiego

Nicolai, J. A. 7102
Fr 1stMAW WDApr
To 2dMAW

Nolan, J. M. 7399
Fr 2dMarDiv
To MAD NABTC Pncla By29Mar

Noteboom, K. W. 9901
Fr USS Midway WDApr
To 1stMarDiv

Pereira, R. J. 7399
Fr 2dMAW
To MAD NABTC Pncla By29Mar

Peterson, R. L. 7331
Fr 2dMarDiv WDApr
To 3dMAW

Possenti, B. B. 0130
Fr MCB CamPen WDMar
To 5thMCRRD

Raithel, R. B. 3010
Fr MCB CamLej WDMar
To ForTrps FMFLant

Reynolds, W. D. 7333
Fr 1stMAW WDApr
To 3dMAW

Rhodt, D. C. 0302
Fr 3dMarDiv WDApr
To MCCWTC Bridgeport

Schon, P. G. 0301
Fr USS Randolph WDApr
To 2dMarDiv

Schreiner, C. W. 0302
Fr USS Shangri La WDMay
To 2dMarDiv

Searle, H. L. 7333
Fr 1stMAW WDApr
To 1stMarBrig

Slider, W. P. 0302
Fr 3dMarDiv WDApr
To NTC GLakes

Smith, L. O. 3020
Fr 3dMarDiv WDApr
To ForTrps FMFLant

Stevens, J. D. 7333
Fr 1stMAW WDApr
To NABTC NAS Pncla

Stewart, D. P. 0302
Fr Ft Holabird WDApr
To Pt Lyautey

Strasser, J. H. 0301
Fr MCS Quant WDMar
To 2dMarDiv

Stremic, A. W. 0302
Fr 3dMarDiv WDApr
To MCRDep SDiego

Sundstrom, D. A. 3010
Fr MCB CamLej WDMar
To 2dMarDiv

Taylor, F. D. 7399
Fr 1stMarDiv
To MAD NABTC Pncla By29Mar

Theer, R. E. 0302
Fr 3dMarDiv WDApr
To MCRDep SDiego

Thomas, W. L. 0702
Fr ForTrps FMFPac
To AirFMFPac By13Mar

Tragna, J. J. 0702
Fr 3dMarDiv WDApr
To 1stMarDiv

Underwood, J. L. 7333
Fr MAD NAS Pncla WDMar
To 2dMAW

Watson, J. L. 7333
Fr 1stMAW WDApr
To NABTC NAS Pncla

Watson, G. C. 7333
Fr 2dMAW
To 1stMarDiv By1Jun

Werner, I. R. 6709
Fr 2dMAW WDApr
To 1stMAW

Whiting E. R. 3502
Fr 3dMarDiv WDApr
To MCB CamPen

Recent Command and Staff Assignments

Dahlquist, M. J., CO, D Co, 1/4, MCAS, Kaneohe Bay

Extended Active Duty

Abbate, P. Dec61
Bates, B. H. Jun62
Boggs, L. B. Sep61
Boudeau, G. E. Aug61
Bracey, A. O. Aug61
Eblen, W. D. Sep61
Fehlen, P. J. Aug61
Houtchens, J. J. Oct61
Kosmo, F. W. Sep61
Lucatuorto, F. E. Nov61
McLeran, C. S. Sep61
Middleton, H. J. Dec61
Mollahan, J. F. Dec61
Robinson, C. N. Jun62
Smith, J. P. Aug61
Shoptaw, R. D. Jun62
Starnes, J. E. Sep61
Troxell, J. M. Nov61
Tubach, P. B. Mar62
Yoakum, T. A. Jul61

Permanent Promotions

Ades, R. E. Feb
Albro, R. C. Feb
Baldwin, J. C. Feb
Bevis, M. H. Feb
Black, H. Feb
Braun, R. C. Feb
Brutcher, S. J. Feb
Buckley, J. C. Feb
Cantrell, R. L. Feb
Carrigan, D. H. Feb
Carroll, J. T. Feb
Dolan, J. J. Feb
Downing, G. H. Feb
Duggan, P. T. Feb
Dunning, C. L. Feb
Germagian, B. P. Feb
Gligorea, T. J. Feb
Hammack, T. R. Feb
Hansston, J. F. Feb
Hatch, E. E. Feb
Henry, N. E. Feb
Horner, W. H. Feb
Howe, E. L. Feb
Kemp, G. G. Feb
Krueger, S. P. Feb
Layman, P. B. Feb
Legge, J. B. Feb
Martin, R. J. Feb
McDaniel, J. L. Feb
Michael, L. K. Feb
Millice, K. P. Feb
Murray, J. W. Feb
Neal, R. G. Feb
Nolan, J. M. Feb
O'Connor, M. E. Feb
O'Mahoney, T. P. Feb
Phillips, R. A. Feb
Powell, F. F. Feb
Pulcheon, J. H. Feb
Radich, J. T. Feb
Reynolds, A. S. Feb
Root, R. W. Feb
Simon, C. C. Feb
Slater, J. P. Feb
Soomre, R. Feb
Stroman, H. F. Feb
Tardy, J. S. Feb
Welzant, C. M. Feb
Whipple, L. A. Feb

Temporary Promotions

Cates, G. L. Mar
Stanton, D. R. Mar

Selected for Integration

Abshire, R. M.
Ahlers, R. J.
Alford, D. F.
Allen, W. H., Jr.
Appezzato, R. J.
Banks, E. J.
Barry, A. P.
Barton, D. A.
Beason, R. W.
Berbaum, G. E.
Blowers, C. W.
Brennan, R. V.
Britton, O. W.
Brown, P. C.
Bruce, J. J.
Burgess, R. E.
Byrne, W. A.
Caracio, V. D.
Catoe, C.
Close, R. L.
Coker, C. F. W.
Coon, J. W.
Cowley, E. L.
Derryberry, L. D.
Dorman, D. D.
Elgaard, R. J.
Eltringham, C. J.
Foti, J. D.
Fry, D. E.
Fugate, R. A.
Gebara, E. W.
Gonzales, L. H.
Graham, R. J.
Harwood, A. E.
Hearn, G. C., Jr.
Held, A. E.
Huf, W. R.
Hughes, L. M.
Jordan, L. W.
Kelley, J. D.
Kelly, G. D., Jr.
Komar, J. T.
Kurth, G. F.
Langton, R. E.
Ledeboer, W. D.
Lemon, D. W.
Lindauer, J. D.
Mailler, D. W.
Mann, E. F.
Marks, J. A.
Martin, R. H.
McIntyre, W. L.
Meinecke, D. N. M.
Middleton, S. G.
Milner, T. R.
Obringer, D. H.
O'Brien, R. V.
O'Donnell, T. R.
Ollice, J. P.
Orsburn, L. M.
Prior, W. A., Jr.
Rebstock, W. F.
Reddick, W. G.
Richter, E. P., Jr.
Rivera, J. C., Jr.
Rohde, J. A.
Rosene, V. C.
Ross, J. W.
Ruhl, H. H., Jr.
Sallis, J. E.
Schalk, J. D.
Schmidt, C. J., Jr.
Seay, H. L.
Seed, R. J., III
Sheppard, M. J.
Shuman, W. D.
Smartz, J. J.
Smith, M. E., Jr.
Smith, W. G., Jr.
Stackpole, H. C.
Strasser, J. H.
Stremlow, G J.
Sullivan, J. F.
Sutton, V. D.
Sweeney, S.
Szili, W. A.
Tague, F. J.
Taylor, M. L.
Thompson, J. M.

Tremmel, D. F.
Trenski, D. F.
Tutterow, H. W., Jr.
Ulses, R. J.
Uren, W. F. H., Jr.
West, R. L.
Welty, M. F.
Wheeler, J. J.
White, J. D.
Wiggins, S. C.
Wile, W. A.
Wunderlich, L. A.
Zinowski, W. T.

Released From Active Duty

Akers, R. G. 0802
3dMarDiv WDApr

Akers, O. S. 7333
1stMAW WDApr

Alwan, H. J. 7333
1stMAY WDApr

Barnett, J. B. 3010
1stMarDiv 15Apr

Blair, W. J. 0302
MCB CamLej 15Apr

Blair, D. D. 7335
3dMAW 15May

Blanton, R. D. 7335
1stMAW WDApr

Brady, M. J. 0802
2dMarDiv 15Apr

Brooks, L. R. 9901
1stMAW WDApr

Carr, R. L. 7333
2dMAW 15Apr

Contreras, E. J. 7335
2dMAW 15May

DeWolfe, M. W. 7335
2dMAW 15May

Edwards, E. M. 3095
MCSFA SFran 1May

Feid, C. W. 1802
ForTrps FMFLant 15Apr

Flannery, M. R. 7333
2dMAW 15Apr

Freeman, D. R. 7304
3dMAW 15May

Fritzler, R. A. 7335
3dMAW 15May

Gibson, W. P. 2502
FMFLant 15Apr

Hall, R. B. 7335
2dMAW 15Apr

Hardy, J. P. 0802
ForTrps FMFPac 15Apr

Hayes, P. L. 2502
2dMarDiv 15Apr

Hickman, J. F. 7333
2dMAW 15May

Houtchens, B. A. 7333
1stMarBrig WDApr

Johnson, B. G. 7335
2dMAW 15Apr

Jordan, R. H. 7302
1stMAW WDApr

Mascorro, S. 0802
MCB CamPen 15Apr

Mathews, E. O. 2502
2dMAW 15Apr

Oktavec, O. L. 7335
2dMAW 15Apr

Pancione, P. R. 0802
FMFLant 15Apr

Perry, R. R. 3502
3dMarDiv WDApr

Prusch, F. R. 0802
3dMarDiv WDApr

Quinn, R. H. 0802
ForTrps FMFPac 15Apr

Sniffen, J. E. 3502
3dMarDiv WDApr

Stanton, B. G. 7333
2dMAW 15May

Staschiak, J. F. 6709
2dMAW 15Apr

Sutfin, W. A. 7335
2dMAW 31May

Tate, J. C. 7335
2dMAW 31May

Walker, P. M. 6709
2dMAW 15Apr

Welsh, R. H. 3502
3dMarDiv WDApr

Wilson, G. P. 6709
2dMAW 15Apr

Retired

Moreno, R. J.
MARTC NAS LosAlam 28Feb

Rohloff, C. A. 7335
MCS Quant 26Jan

Temporary Promotions, Reserve

Benott, G. F. Feb
Collins, T. J. Mar
Dorenda, S. Feb
Fitzpatrick, R. L. Mar
Foell, T. F. Mar
Honeycutt, J. G. Feb
Horak, F. J. Mar
Johns, R. P. Mar
King, J. Feb
Leahy, R. B. Mar
McDaniel, S. E. Feb
Miller, C. S. Feb
Rau, R. L. Mar
Riggs, J. L. Feb
Sheer, T. L. Mar
Upshaw, C. R. Feb
Walsworth, W. A. Feb
White, R. D. Feb
Williams, G. R. Mar
Yohn, J. D. Mar

Deaths, Retired

Van Housen, M. J.
San Luis Obispo Cal 22Jan

2d Lieutenants

Transfers

Bahnmaier, W. W. 1801
Fr MCS Quant WDMar
To ForTrps FMFLant

Bailey, A. D. 1801
Fr MCS Quant WDMar
To 1stMarDiv

Baker, R. L. 7399
Fr MCS Quant
To NABTC NAS Pncla By29Mar

Bane, R. E. 3010
Fr MCB CamLej WDMar
To 1stMarDiv

Barker, J. P. 9901
Fr MCS Quant WDApr
To ForTrps FMFLant

Baxter, T. W. 9901
Fr MCS Quant
To USS Kearsarge By15May

Beck, D. C. 0701
Mr MCS Quant WDMar
To ForTrps FMFPac

Beckford, C. H. 1801
Fr MCS Quant WDMar
To ForTrps FMFLant

Beckwith, H. K. 0101
Fr MCS Quant WDMar
To 2dMarDiv

Besch, E. W. 0301
Fr MCS Quant WDMar
To 3dMarDiv

Bierman, E. O. 0301
Fr MCS Quant
To USS Forrestal By10Apr

Bikasis, C. N. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Bland, P. L. 7399
Fr MCS Quant
To MAD NABTC Pncla By22Feb

Bomkamp, N. H. 0301
Fr MCS Quant WDMar
To 1stMarDiv

Bower, J. W. 0301
Fr MCS Quant BasScol WDMar
To MCS Quant

Brockschmidt, W. R. 0301
Fr MCS Quant WDMar
To 1stMarDiv

Bryan, J. S. 0301
Fr MCS Quant WDMar
To 2dMarDiv

Buice, E. D. 9901
Fr MCS Quant WDApr
To 2dMarDiv

Burke, A. B. 0301
Fr MCS Quant WDMar
To 1stMarDiv

Cavallaro, J. M. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Cavalier, F. N. 1301
Fr MCS Quant WDApr
To ForTrps FMFLant

Cheesebrough, G. R. 3501
Fr MCS Quant WDMar
To 3dMarDiv

Clark, F. S. 1301
Fr MCS Quant WDApr
To 1stMarDiv

Cox, D. C. 0301
Fr MCS Quant WDMar
To 1stMarDiv

Crowley, J. F. 3010
Fr MCB CamLej WDMar
To 3dMAW

Curley, M. H. 0301
Fr MCS Quant
To USS Lake Champlain By5May

Darrow, D. L. 7399
Fr MCS Quant
To MAD NAS Pncla 29Mar

Daugherty, R. E. 3010
Fr MCB CamLej WDMar
To 2dMAW

Dickie, L. 9901
Fr USS Hornet WDApr
To 1stMarDiv

Dickson, B. H. 1301
Fr MCS Quant WDApr
To 1stMarBrig

Dilweg, G. T. 1301
Fr MCS Quant WDApr
To 1stMarDiv

Donnelly, F. L. 3501
Fr MCS Quant WDMar
To 1stMarBrig

Donohoe, E. T. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Duncan, R. G.
Fr MCS Quant WDMar
To 3dMarDiv

Dunn, T. R. 1801
Fr MCS Quant WDMar
To ForTrps FMFLant

Dycus, J. R. 2501
Fr MCS Quant WDMar
To ForTrps FMFLant

Elgin, A. C. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Elrod, M. 0701
Fr MCS Quant WDApr
To ForTrps FMFPac

Ennis, B. F. 0301
Fr MCS Quant WDApr
To 1stMarBrig

Feitel, J. Y. 3010
Fr MCB CamLej WDMar
To 1stMarDiv

Fetsch, V. T. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Flaharty, J. P. 1801
Fr MCS Quant WDMar
To 3dMarDiv

Flaherty, J. P. 0301
Fr MCS Quant
To USS Lexington By15May

Fletcher, F. B. 0301
Fr MCS Quant WDMar
To 1stMarDiv

Forbes, J. 0801
Fr MCS Quant WDMar
To 1stMarBrig

Fullem, D. 3010
Fr MCB CamLej WDMar
To MCSC Albany

Gail, T. W. 3010
Fr MCB CamLej WDMar
To ForTrps FMFLant

Gann, R. B. 3010
Fr MCB CamLej WDMar
To MCSC Albany

Gardner, P. E. 0301
Fr MCS Quant
To USS Canberra By10Apr

Gatz, R. L. 3010
Fr MCB CamLej WDMar
To 2dMarDiv

Giordani, F. S. 0301
Fr MCS Quant WDMar
To 2dMarDiv

Gorman, M. W. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Grace, R. H. 0301
Fr MCS Quant WDMar
To 1stMarBrig

Graves, S. G. 3010
Fr MCB CamLej WDMar
To MCSA Phila

Griffen, W. G. 0701
Fr MCS Quant WDApr
To ForTrps FMFPac

Gruenberg, R. J. 0301
Fr MCS Quant WDMar
To 2dMarDiv

Hahn, W. G. 1301
Fr MCS Quant WDApr
To 3dMarDiv

Hajduk, F. A. 2501
Fr MCS Quant WDMar
To ForTrps FMFLant

Handrahan, R. G. 0301
Fr MCS Quant WDMar
To 1stMarBrig

Harlan, R. R. 7399
Fr MCS Quant
To NABTC NAS Pncla By29Mar

Hatchett, J. A. 0301
Fr MCS Quant WDMar
To 3dMarDiv

Heffernan, J. P. 3501
Fr MCS Quant WDMar
To 1stMarDiv

Hendrix, P. N. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Hicks, B. L. 1801
Fr MCS Quant WDMar
To 1stMarDiv

Hoyle, W. R. 3010
Fr MCB CamLej
To 1stMAW By17Apr

Hracho, E. E. 0301
Fr MCS Quant WDApr
To 1stMarBrig

Hudson, A. L. 0801
Fr MCS Quant
To 3dMarDiv By20May

Jamieson, L. R. 2501
Fr MCS Quant WDMar
To ForTrps FMFLant

Jelinek, D. L. 9901
Fr MCS Quant WDApr
To ForTrps FMFLant

Jenkins, H. W. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Johnson, L. J. 6709
Fr 2dMAW WDApr
To 1stMAW

Kerr, J. A. 7399
Fr MCS Quant
To NABTC NAS Pncla By29Mar

Kew, R. J. 9901
Fr MCS Quant WDApr
To 3rdMarDiv

Kinder, J. D. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Kinney, W. E.
Fr MCS Quant WDMar
To 3dMarDiv

Kistner, D. H. 3010
Fr MCB CamLej WDMar
To 1stMarDiv

Koontz, R. P. 1301
Fr MCS Quant WDApr
To 2dMarDiv

Kramer, P. A. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Lambert, K. J. E. 3010
Fr MCB CamLej
To 3dMarDiv By17Apr

Lee, V. R. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Lewan, L. S. 0301
Fr MCS Quant WDMar
To 1st MarDiv

Loving, F. L. 0301
Fr MCS Quant WDMar
To 2dMarDiv

Lowrie, M. A. 0130
Fr FMFLant
To WOSO Boston By17May

Loyd, C. R. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Lutheran, J. A. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Lynn, J. F. 0701
Fr MCS Quant WDApr
To ForTrps FMFPac

May, J. A. 9901
Fr MCS Quant WDApr
To 3dMarDiv

McCloskey, H. S. 0301
Fr MCS Quant WDMar
To 2dMarDiv

McClannahan, G. W.
Fr MCS Quant
To NABTC NAS Pncla By29Mar

McElroy, J. R. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Meek, R. S. 2501
Fr MCS Quant WDMar
To ForTrps FMFLant

Meeks, C. I. 0301
Fr MCS Quant
To USS Roosevelt By5May

Mills, J. D. 7399
Fr MCS Quant
To NABTS NAS Pncla By29Mar

Milowicki, A. R. 2501
Fr MCS Quant WDMar
To ForTrps FMFLant

Morley, G. H. 3010
Fr MCB CamLej
To MCAS Kaneohe By17Apr

Naughton, J. M.
Fr MCS Quant WDMar
To 3dMarDiv

Newbern, J. A. 1301
Fr MCS Quant WDApr
To 3dMarDiv

Oliver, D. E.
Fr MCS Quant WDMar
To 3dMarDiv

O'Neal, G. S. 1301
Fr MCS Quant WDApr
To ForTrps FMFLant

Osgood, W. H. 0301
Fr MCS Quant WDMar
To 1stMarDiv

Pabst, R. W.
Fr MCS Quant WDMar
To 3dMarDiv

Pepin, A. J. 3010
Fr MCB CamLej
To 3dMarDiv By17Apr

Piper, M. L. 0301
Fr MCS Quant WDMar
To 1stMarDiv

Prodan, J. J. 0801
Fr MCS Quant WDMar
To 1stMarBrig

Prue, D. B. 7399
Fr MCS Quant
To NABTC NAS Pncla By29Mar

Puaa, E. S. P. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Quicley, M. L. 3010
Fr MCB CamLej
To 3dMarDiv By17Apr

Rasmussen, R. J. 3010
Fr MCB CamLej
To 3dMarDiv By17Apr

Reilly, J. P. 0301
Fr MCS Quant WDMar
To 2dMarDiv

Reimer, J. H. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Richardson, J. D. 3010
Fr MCB CamLej WDMar
To MCSC Barstow

Riesen, R. A.
Fr MCS Quant WDMar
To 3dMarDiv

Roberts, L. A. 0301
Fr MCS Quant WDMar
To 1stMarDiv

Roberts, J. W. 3010
Fr MCB CamLej
To 3dMarDiv By17Apr

Robinson, R. D. 0301
Fr MCS Quant WdMar
To 2dMarDiv

Roche, W. A. 2501
Fr MCS Quant WDMar
To ForTrps FMFLant

Rogers, W. C. 2501
Fr MCS Quant WDMar
To ForTrps FMFLant

Romaine, A. C. 0301
Fr MCS Quant WDMar
To 1stMarDiv

Ross, R. A. 0301
Fr MCS Quant WDApr
To 1stMarBrig

Sadler, K. R. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Sawyer, J. F. 3010
Fr MCB CamLej WDMar
To MB Wash DC

Sebold, P. G. 0301
Fr MCS Quant WDMar
To 2dMarDiv

Shea, R. M. 0301
Fr MCS Quant WDMar
To 1stMarDiv

Sims, G. W. 3010
Fr MCS Quant WDMar
To MCB CamLej

Smith, V. M. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Smith, W. D. 1301
Fr MCS Quant WDApr
To ForTrps FMFLant

Smith, F. T. 609
Fr 3dMAW WDApr
To 1stMAW

Smythe, W. E. 0301
Fr MCS Quant
To USS Kitty Hawk By24Apr

Sowers, R. L. 0801
Fr MCS Quant WDApr
To 2dMarDiv

Spolyar, R. J. 7399
Fr MCS Quant
To NABTC NAS Pncla By29Mar

Steiner, K. J. 0301
Fr MCS Quant WDMar
To 2dMarDiv

Stewart, J. J. 0801
Fr MCS Quant WDMar
To 1stMarBrig

Sughrue, D. F. 0801
Fr MCS Quant WDMar
To 1stMarBrig

Sullivan, E. V. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Supple, J. R. 3501
Fr MCS Quant WDApr
To ForTrps FMFLant

Szweda, E. H. 001
Fr MCS Quant WDMar
To ForTrps FMFPac

Tenney, J. R. 0301
Fr MCS Quant WDApr
To 1stMarBrig

Thomas, W. C. 6709
Fr 3dMAW WDApr
To 1stMAW

Thompson, J. G. 0301
Fr MCS Quant
To USS Randolph By10Apr

Traylor, J. W. 0301
Fr MCS Quant WDMar
To 1stMarDiv

Tull, M. N. 0801
Fr MCS Quant WDMar
To 1stMarBrig

Varelas, J. M. 3010
Fr MCB CamLej WDMar
To MCS Quant

Walker, E. M. 0301
Fr MCS Quant WDMar
To 2dMarDiv

Wallace, G. F. 0801
Fr MCS Quant WDMar
To 1stMarBrig

Ward, S. D. 3010
Fr MCB CamLej
To 3dMarDiv

West, M. F. 1301
Fr MCS Quant WDApr
To ForTrps FMFLant

Whitfield, M. 7399
Fr MCS Quant
To NABTC NAS Pncla By29Mar

Wister, W. D. 9901
Fr MCS Quant WDApr
To 3dMarDiv

Worrell, W. K. 0301
Fr BasicSch WDMar
To MCS Quant

Zensen, R. 0301
Fr MCS Quant WDMar
To 2dMarDiv

Zubke, L. H. 3010
Fr MCS Quant WDMar
To MCB CamLej

Selected for Integration

Barry, W. A., Jr.
Butler, J. H.
Duffy, T. T.
Dunn, E. M.
Hawkins, H. H., Jr.
Hirsch, D. B.
Parrish, H. H., Jr.
Swindle, O. G., III
Westfall, J. I.
White, J. M.
Young, R. K.

Warrant Officers

WO (Phase II) selection board began screening applications on 28 March, will pick 116 new WOs from slightly more than 3,000 applications (2,768 regulars including 13 WMs; 258 reserves). If you applied, your odds on getting picked are 1 to 26.

Board will also pick 46 LDOs from 275 applications. One in six will make it.

W-4
Retired

Camper, H. F. 2002
1stMarDiv 31Mar

Gilbert, J. R. 3502
1stBn USMCR Atla 31Mar

Sutton, B. W. 4102

Transfers

Bucek, C. C. 1310
Fr Camp Butler WDApr
To MCB CamLej

W-3
Transfers

Keller, R. P. 2002
Fr 1stMarBrig WDApr
To Indian Head Md

Lewis, D. 7332
Fr MCSC Barstow
To 3dMarDiv By22May

Retired

Pasley, R. E. 3090
MCRDep SDiego 28Feb

Deaths, Retired

Mannan, W.
Paris, Ill.

W-2
Transfers

Gilbert, C. R. 0302
Fr Camp Butler Okinawa WDApr
To NB NavMis Cecil Fld

Gill, W. J. 2715
Fr 3dMarDiv WDApr
To MCS Quant

Vismont, J. V. 2045
Fr 3dMarDiv WDApr
To 1stMarBrig

Retired

Bouher, E. J. 0302
MCAS El Toro 28Feb

Wolford, L. S. 1320
HQMC 28Feb

W-1
Transfers, Reserve

Georgia, B. K. 4106
Fr HqBn HQMC
To HQMC Fiscal Dept By1Mar

Gleanings from Here 'n There

. . . **MCS, Quantico** picked St. Patrick's Day to open its swanky new NCO Club, became first base to serve other than beer to over-21 Cpls and Sgts, after first pirating master mixologist **Sgt M. H. Handelsman** from Waller Hall "O" Club as off-duty boss of 33-place T-shaped ebony bar.

. . . **First spadeful** of earth has been turned at MCS, Quantico (by **LtGen E. W. Snedeker**) marking start of 450 three- and four-bedroom Capehart homes promised by June '63. . . . **Also at** Quantico, work has started on converting WM barracks into semi-private rooms. . . . **3/1 is in** a new home at CamPen (Camp San Mateo) after finishing 13-month tour with 3dMarDiv.

. . . **Back in business** briefly after six years: *The First Word,* official 1stMarDiv newspaper, resurrected on a one-shot basis during recent CPX to test ability of Div ISO in the field. . . . **3 WOs, 12 LDOs** now in flight status will continue to draw extra pay for the time being, may be taken off flight status later as result of DoD action restricting number of flyers at any given time. Pilots who now accept WO/LDO non-flying MOS lose their flight orders. . . . **Call is out** for C1 III reservists from west of the Missouri River to take active duty billets during upcoming exercise at CamPen. Write CMC (Code AFL) to apply. Billets are for asst staff officers at Bn, Regt, Brig and Div level. Running dates of exercises: BRIGADELEX, 1Apr-20 May; PHIBLEX, 8-Apr-6Jun. . . . **Solant Amity Marines** cruising the Dark Continent are brightening life for African small fry with parties. They chipped in, raised $400.00 for this purpose.

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RESCUE

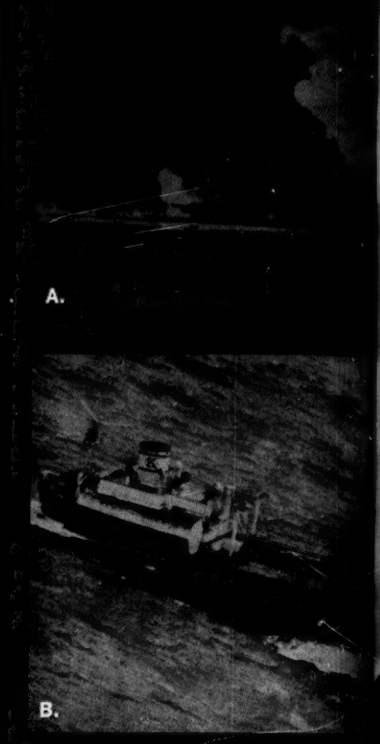
The Kaman HUSKIE was designed to be a rugged, reliable rescue helicopter. It was bred for the boondocks. The number, nature and difficulty of the rescues it has completed since entering operational service prove it was bred right. Rescues involving Kaman helicopters which hit the headlines recently follow below, with on the spot photos to the right.

A. LARSON AFB, WASH.— A Huskie hovering over the burning wreckage of a B-52D used its rotor downwash to keep flames away from the bomber's 128,000 pound fuel load until all 10 crewmen had been safely evacuated. (Air Force Photo)

B. CAPE HATTERAS, VA.— When the tanker Pine Ridge broke up off shore, a Kaman HUK operating from the Valley Forge rescued 9 crew members and returned them safely to its carrier base. (U.S. Coast Guard Photo)

C. RANDOLPH AFB, TEXAS USAF H-43 on standby alert reached the crash scene of a KC-97 tanker and worked with fire fighting crew to prevent flames from spreading to 4,000 gals. of spilled fuel, saving the aircraft. (San Antonio Field Photo)

THE KAMAN AIRCRAFT CORP., BLOOMFIELD, CONN.


A.

B.

C.

In national defense KAMAN is a part of the rescue plan

This demonstration photo became a reality at PLATTSBURG, N.Y., when one of the crewmen who bailed out of a crippled B-52 was injured when landing in an isolated area of 100 foot trees. The crew of a Huskie saved his life by hovering over the spot and lowering a medic to give first aid until rescuers on foot reached the scene.